

TTAATCGGCG TACCATTTGC AGCAGGTGTC GTTAACTTTG TCGTGCTAAC TGCCGCGGCC 1200  
TCTGCTACAA ATAGTGGTAT CTATTCGAAT AGTCGTATCT TATTCGGACT GTCACAACAA 1260  
5 GGGTTAGGTC CTAAAGTTTT AAATAAAACG AATAGTCATG GCGTGCCTTA TTTATCAATG 1320  
TTAGTTTCAT CAATTGCATT ACTTATAGCA GCCTTGTTAA ACTACATTTT CCCTAATGCA 1380  
ATTCAACTAT TCATATACGT TACAACGTTA tCAACTGTGT TGTtTTTAGT TGTtTGGGCA 1440  
10 ATGATnATTG TCGCTTATCh AATGTATTTG GAAAAAGCAT CCTGAGGCA 1489

(2) INFORMATION FOR SEQ ID NO: 241:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 5000 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 241:

TTTTCCATCA TrATcACCAT TTAAGACAAT AGCTGTATGA CCATATCCTC CACCAAATCT 60  
25 TCCACTAAAA ACCACTAAGT CCCCAGGTTT AGCTTTGAAA GTTGGTGTGT TGTGATAAAT 120  
TTTAGCTTCA CTATTAAAAT TATTTGCATA TGGTATATCT TTAGCTCCAT ATCCTTTtAA 180  
TCCAKGACCA TAAAGAKGAT TCCAATATAC ATTAATAAA TCGAAACATT GCCATCCATA 240  
30 ACTACCGTCG AAATCCCATC CTCTATTCTC TAATGTTTTT AAATAATTTA ATGTACTGCT 300  
ATTACTATTA CTTTTATTAT TTGAAGACAC TGTTTTTGGT TTTGGTTCTA CTAATGGTGT 360  
CATTGGCACT TTTAATTTTT GACCAATAAA TATTAAATTA GGATTGCTA TATTATTTGT 420  
35 ATTTTGAATA TTTGAACTG TAGTTTTGTA TTTAATGCT ATAGCACTAA GTGTGTCTCC 480  
TTTTTtTACA GTATAGATTT GTGTTTTGG AGCTTCTCTA AACTGTAGT AACCAAAGTA 540  
ATTATTAGTA ACTTTATTCG TTTTCTTCTG ATTAGAATTT TGAGCTTCCA AGTTTGCAAT 600  
40 TTTAATTTCT TTAGTAAGTT CATTGTTATT AATAACTAGA TTGTTACCTT GGCTTGAGTT 660  
TTTCGGAGTA TTTGAAATCT TTATATCTTG ATTAATTTCA TTTCCGTTTG AAATTGCTGA 720  
TTTGTGTCT AACTTTAAAC TTGTGTCCGA TGTTTTAACA GCACCTTCAT TTTTTATTTT 780  
45 GTCTTTTGTC GTATTTTTAT TAGCATTTAA CTCTGATTC GCGAATACAT TTTGCTCATA 840  
CCCTCTTGTA AAATCTTTAG ATTTATCAAT TTCATCTGCA TATGCTTTGT TCGACATACC 900  
CAATGCCAAA AACATACCTA TTGAAATTGA CAAAATTCCA ATACTAACTT TTCTAATTGA 960  
50 ATAGCGTACT TTACTTTGTT GTTTATTCAT GATGAAACAC TCCTTACAAT AATATACAAA 1020

|    |  |      |
|----|--|------|
|    | GTAGGAGGTA AAATAATTAA CTTGTCTTTC CAAAATATGA AAAGTGTACT AAAaTTCATC  | 1140 |
|    | GCACGACAAA TAGCCCATTT CCGATACTTT TATAAAGTAT GGAaTGGGCT ATAGCCATTT  | 1200 |
| 5  | ATATCATCTT TTAACCTTAT TTATTAAACAG TTAATAATGA TTCATAAATA CCTGCTTCTT | 1260 |
|    | TAGCAGCTTC AATTAAATGTT GAACCAATTT CTGAAGGTGT TGCCGCTGTT TTCACACCAC | 1320 |
|    | AACTATTTAA TGTTTTAAAT TTCTCTTCAG CAGTACCTTT ACCACCTGAA ATGATTGCAC  | 1380 |
| 10 | CAGCATGTCC CATACGTTTT CCAGGAGGTG CTGTTTGTCC ACCGATAAAG CCTACAACCTG | 1440 |
|    | GTTTTGTCAT ATTCGCTTTA ATCCATTTCAG CTGCTTCTTC TTCAGCCGTA CCACCGATTT | 1500 |
|    | CACCAATCAT AACAACTGCT TTCGTTTCGT CATCTTCATT GAATGCTTTT AAAACATCAA  | 1560 |
| 15 | TAAAGTTTGT TCCGTTGACT GGGTCTCCAC CAATACCAAC AGCTGTAGTT TGACCAATAC  | 1620 |
|    | CTTCTTCAGT CAATTGGTGC ACTGCTTCAT ATGTTAATGT ACCTGAACGA GATACTACAC  | 1680 |
|    | CAACATGACC TTTTTTGTGA ATATAGCCAG GCATAATACC AATTTTACAT TCATCTGCTG  | 1740 |
| 20 | TAATCACACC TGGACAGTTC GGACCAACTA AACGTGTTTT TCTACCTTGT AAGTAGCGTT  | 1800 |
|    | TAACTTTAAC CATGTCTAAT ACAGGAATAT GTTCAGTGAT ACAAATAACC ATATCTAAGT  | 1860 |
| 25 | CTGCATCAGC TGCTTCTAAA ATTGAGTCTG CAGCAAATGG TGCTGGAACG TAAATGACTG  | 1920 |
|    | AAACCGTTGC CCCAGTTTCA TTTTGTAGCTT CTTCAACAGT GTTGAAAACA GGAACGCCTT | 1980 |
|    | CAACAACTTG ACCACCTTTA CCAGGCGTCA CACCTGCTAC TATTTTCGTA CCATAATCAA  | 2040 |
| 30 | GCATTTGTTT TGTATGGAAA AGGGCAGTAG ACCCTGTAAT ACCTTGTAAC ATTACTTTAG  | 2100 |
|    | TATTCCTTATC TATAAATACA CTCATCTTAG TGCTCCCATC CTTTCCTTAT GCTTCTTTGA | 2160 |
|    | CTAGTTTAAAC AATTTTTTGT GCACCTTCAG CCATTGTTGC TGCTGGTTCA ATTGCTAATC | 2220 |
| 35 | CTGAGTCTTT TAAGATTTTT TTACCTAACT CAACATTTGT ACCTTCTAGG CGTACAACCTA | 2280 |
|    | GTGGTAAAGT TAAATCTACT TCTTTTACAG CTTCAACGAT ACCTTCTGCG ATAACATCAC  | 2340 |
|    | ATTTTATAAT GCCACCGAAA ATGTTTACAA AAATACCTTT AACATTTTCA TCACCTAAAA  | 2400 |
| 40 | TGATTTTAAA TGCTTCAGTT ACTTTTCTC TAGTAGCGCT TCGCCTGCA TCTAAGAAAT    | 2460 |
|    | TGGCTGGGTT TCCACCGAAA TGATTAATCG TATCCATTGT TGCCATGGCT AAACCTGCAC  | 2520 |
| 45 | CATTAACCAT ACATCCGATG TCACCATCTA ATGCAATGTA TGATAAATCA TGTTTAGACG  | 2580 |
|    | CTTCAATCTC TTTCGGATCT TCTTCTTCTA AATCACGTAA TTCTACAACA TCTTTATGTC  | 2640 |
|    | TGAATAATGC ATTATCATCA AAATTAATTT TAGCATCTAA TGCCAATACA TCACCATCAG  | 2700 |
| 50 | CTGTTGTAAAC TAATGGGTTG ATTTCTACGA TTGAACAATC TTTTCAATG AATACATTAT  | 2760 |
|    | AAAGTGCTAA TAAGAATTTA GCAGCTTGT TAACAGATTC TTTAGGAATA TTAATATTAA   | 2820 |

|    |            |            |            |             |            |            |      |
|----|------------|------------|------------|-------------|------------|------------|------|
|    | AGATCTTTTC | AGGAGTCTTC | GCAGCAACTT | CTTCAATCTC  | AGTGCCCCCT | TCTTCAGACG | 2940 |
|    | CCATCAATGT | TACTTGGTCA | GTCGCACGAT | CAATAACGAA  | TCCAACGTAA | TATTCTTTTT | 3000 |
| 5  | GAATAGCACA | ACCTTCTTCG | ATATATAAAC | GCTTAATTTT  | TTTACCTTCT | GGACCAGTTT | 3060 |
|    | GATGTGTAC  | CAAAGTTTTT | CCTAATAATT | CTTTTGCATA  | TGTTTCTACC | TCAGATAAAG | 3120 |
|    | ATTTAGCAAT | TTTTACTCCG | CCTGCTTTAC | CTCTACCTCC  | AGCATGAATT | TGTGCTTTTA | 3180 |
| 10 | CAACATAAAC | ATCAGAATTT | AATTCTTTTG | CTTTCTCCAC  | CGCTTCTTCA | GCAGTAAATG | 3240 |
|    | CTACTCGTCC | TTCTGGAAct | GCAACGCCCA | TTGAACGAAA  | TATTTCTTTA | CCTTGATACT | 3300 |
|    | CGTGGATATT | CATCTTCCAT | CCTCCTGTTA | CTTAGGTAA   | GTTCCCTTAC | AATTATAAAA | 3360 |
| 15 | AATGTAAGCG | CTATTGTAAA | CTTAAATGCT | ACTTTTTTAT  | CATTTAATTG | AATTTTACGA | 3420 |
|    | TTTACAGTAA | CGATTTTATA | GGTTCAAAGC | TTTTTCTATG  | CTCTTTTATA | ATGCCAATAT | 3480 |
| 20 | CATCGATTGC | TAGTAAATGT | TGTTTGGTAC | CGTAACCCGC  | GTTTTTTTCA | AAACCATATT | 3540 |
|    | CAGGATAATC | TTTAGATAAC | TGTGTCATAT | AATCATCAG   | AAAAACCTTT | GCCATGATAC | 3600 |
|    | TTGCAGCTGC | AATGGACACA | CTTCTTGCAT | CACCCTTGAT  | TAAAGATACT | TGAGGCAGTG | 3660 |
| 25 | CATTATCAAG | CGTCATCGCG | TCTATCAATA | AATGCGTTGG  | TGTACTGAT  | AATCCATCAA | 3720 |
|    | TAGCTCGCTG | CATGGCGATT | TGAGTAGCTT | TATAAATATT  | AAATTCATCT | ATTTCTTnCA | 3780 |
|    | GtGTCGCGAT | CCCATATGCA | AAAGCAGTAA | CTTCATTTTT  | TAGTGCTTCA | TTTAATTCTA | 3840 |
| 30 | GACGTTTCGT | AACAGGTACT | TTTTTCGAGT | CATCAAGGCC  | CAAATAATTG | TGATTTGAAT | 3900 |
|    | TTAAAATTGT | TGCGCATGCA | ACGACTGGAC | CTGCTAAAGG  | TCCTCTTCCA | ACTTCATCAA | 3960 |
|    | TCCCACAAAT | AATAGCATT  | GGATGCTCTT | TTAATATTTT  | ATTTTCAAAG | TAAGTCATTT | 4020 |
| 35 | CAACATACTT | TTCTTTTAAA | GCTTGTTCTT | TTTCTAACGC  | TTTTCTGCGC | CTAGCTATGG | 4080 |
|    | CATTITGAAC | ACCTTTTCGC | TCATCTAAAA | AGCATTTCATG | ATTTTCTAAT | TCTTCTATTG | 4140 |
|    | TATTAACCGC | ATTAATCAAC | TGCGTAACTT | CTTTAATTGT  | TAGCGTCATT | TGCTAATTCC | 4200 |
| 40 | TCAGTCATAT | CTTTAAAAAT | ATCAAAACAA | TAATTTCTTA  | TTTTAGCATT | TCGAATATCA | 4260 |
|    | TAAATAATCA | GTTCAATGAC | TGCTTCGTAA | TCAATTTTCAT | TACCACGTCG | AATTAAGCCC | 4320 |
| 45 | ACGTTTTTTT | CCTATCGCAT | CAAACCACGC | TATGATTTCT  | GCACTTTCAG | GAACTTCAAT | 4380 |
|    | ATTATAATGT | GACTTTAATC | GCGCTAAATC | ATTTTGAATT  | AAAAAGTTTA | ATCCATAGAT | 4440 |
|    | GGCAACTTCA | TCTAAGTGCA | CAATACTATC | TTTTATCGCA  | CCAGTTAAAC | TCAACTTCTT | 4500 |
| 50 | ACCGACTTCT | TCATCTTCAA | ATTTAGGCCA | AAGTATCCCT  | GGTGTGTCTA | ATAGTTGTAA | 4560 |
|    | TGCATTACCA | ACTTTAATCC | ATTGTTGTTG | TTGGTGCACA  | CCTGGTTTAT | TACCAGTCTG | 4620 |

AACGATCATT GCTCTTATCG CTCTAGGTTT AAGTCCTTTC GCTTTTTTCGC GTTCAAATTT 4740  
 TTCAGCAGTC GCCTTAATTG CTGCAGCTTC CACTTCTTTT AAATTTTAC CGTGCTTAGC 4800  
 5 ATCCACTGAT ACAGGATAgT AtCCTTTATC AATAAAAAAT tGTTCCCATT TTGACATCTC 4860  
 ATTTAAATTA GACATATCTT TTTTATTTAA TATAACAACA CGTGGTTTTT GGTAAATAAC 4920  
 TTCATCTATC ATAGGGTTTC TTGAACTATA TGGAACTCTT GCATCTACTA GTTCAAACAC 4980  
 10 TACATCTACT TTTTTTAATT 5000

## (2) INFORMATION FOR SEQ ID NO: 242:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1700 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 242:

AACCCGnAGA CGAAACTnCA TAGTTGCCTG TTATGTTGAT TAGTGCCTTT GTAGCTATTT 60  
 25 nAAATCAAAC ATTATTAAAT ACAGCGTTAc CTAGTATAAT GAGAGAATTA AATATCAATG 120  
 AAAGTACATC GCAATGGCTA GTTACTGGGT TTATGCTTGT TAATGGCGTC ATGATACCTC 180  
 TGACGGCATA TCTAATGGAT AGAATTAAAA CTAGACCTTT ATACTTAGCG GCGATGGGGA 240  
 30 CATTTTTATT AGGTTCTATT GTTGCAGCCT TAGCTCCGAA TTTTGGAGTT TTAATGTTAG 300  
 CTCGTGTAAT TCAAGCGATG GGTGCAGGCG TACTTATGCC CTTAATGCAA TTTACGTTAT 360  
 TTACATTGTT CAGTAAAGAA CATCGAGGTY TtGCAATGGG ACTAGCAGGT TTAGTAATTC 420  
 35 AATTTGCACC AGCAATAGGA CCTACAGTTA CAGGATTAAT TATTGATCAA GCGAGTTGGC 480  
 GAGTtCCATT TATTATAATT GTAGGAATTG CTATACTTGC CTTTGTTTTT GGTtTGTTTT 540  
 CAATCTCGAG TTACAATGAA GTGAAATATA CGAAATTAGA TAAGCGTTCA GTAATGTATT 600  
 40 CAACTATTGG GTTCGGGTTA ATGCTATACG CATTTAGTAG TGCAGGAGAT TTAGGATTTA 660  
 CAAGTCCAAT AGTAATAGGT GCGTTGATAT TAAGTATGGT TATTATCTAT TTATTTATAC 720  
 GTAGACAATT TAATATTACT AATGCACTTT TAAATTTAAG GGTtTTTAAA AATAGAACAT 780  
 45 TTGCATTATG TACGATTAGT TCAATGATTA TAATGATGTC AATGGTTGGA CCTGCGCTGC 840  
 TTATACCGCT ATATGTTCAA AACAGTTTAT CTTTATCTGC CTTGTTATCA GGACTTGTTA 900  
 50 TCATGCCTGG TGCAATAATA AATGGTATTA TGTCAGTTTT TACAGGTAAA TTTTATGATA 960  
 AGTATGGTCC TAGACCATTG ATTTATACTG GTTTTACAAT TTTAACAATT ACTACAATTA 1020

GAATGTTTTTC AGTTTCTTTA CTCATGATGC CGATAAATAC TACAGGAATT AATTCTTTGA 1140  
 GAAATGAAGA AATCTCACAT GGCACGGCTA TTATGAACTT TGGTCGTGTA ATGGCTGGTT 1200  
 5 CACTAGGCAC AGCTTTAATG GTTACATTAA TGAGTTTTGG TGCAAAAATA TTTTATCTA 1260  
 CATCGCCATC GCATTTAACT GCAACTGAAA TTAAACAGCA ATCCATTGCT ATAGGGGTGG 1320  
 ATATCTCATT TGCTTTTGTA GCTGTGCTTG TTATGGCAGC TTATGTGATA GCACTTTTTA 1380  
 10 TAAGAGAACC TAAAGAAATA GAAAGTAATA GAAGGAAATT TTAAAATAAT TATAGTAGTT 1440  
 GGTCTATTTA AAATAATAGG CTAAGTGCTT TTTTATTTA ATAAAAAGTT TTATACTTTT 1500  
 AGTGATAGAC TAAGCAAAAA TTGTTATTTG CTATGATGTA GATGTCTTAA AATGATTAAG 1560  
 15 GGGGATTTGC TTTGTTAACG GTAGATCAAG TGAAAGAATT GGTAGGAGAA ATTAAGATC 1620  
 CTATTATAGA TGTGCCTTTA AAAGAAACAG AAGGTATTGT TGAnGTTTCT ATTAAGGGAG 1680  
 20 AAnAAGAACA TGTGAGTGTT 1700

## (2) INFORMATION FOR SEQ ID NO: 243:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10146 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 243:

TGCATCAACT TTCAAACAAT AAATCATCAC AATAACCACA CCTAATTCAA CACTTTTCAA 60  
 ACATAAGTAT TGACACATTG AGCAAAATGA TTTTAAATTG TAACTAATAC AGTTACAATT 120  
 35 ATGAGGTGAG AAACATTGAA TTTAGAATTT AACATTGCCG TGCATGTATT AGCTTTTTTTA 180  
 ACTAAGCATC aTTCAGAAAA ATTCAATAGT AGTTCATTAG CAGAAaTTAaC TTGTTTAAAT 240  
 CCTGTTCAAT TACGACGCGT GACGACTCAA CTGTGCGATT TAAAAATGAT TGACACAATA 300  
 40 CGAGGTAAAG ATGGCGGTTA TTTAGCAAAT GATCAAAGTG CTGATGTCTC TCTAGCAACA 360  
 TTATaTAAAC ATTTTGTCTT AGAGAAAGAA CACCACACAC GTCTATTTAC TGGCGACGAA 420  
 GGCAGTCACT GTCAAATTGC TCGTAATATT GCAACTACCA TGTCACATTA TCAGCAAGAC 480  
 45 GAACAGAATA TCATTATTAA TTTTATAAT GGAAAAACAA TCAAAGATGT CATTGAAGAC 540  
 ATTCAAAGG AGGATTTATG TCATGAAAAC ATATGATTTA ATTGTAATAG GATTGGGGAA 600  
 50 AGCTGGTAAA ACTTTAGCGA AATACGCTGC ATCAACAGGT CAACACGTCG CAGTTATCGA 660  
 ACAATCTCCG AAAATGTATG GAGGCACTTG TATAAACATA GGATGTATAC CTTCGAAGAC 720

|    |             |            |            |             |            |            |      |
|----|-------------|------------|------------|-------------|------------|------------|------|
|    | TGTTGTCAAT  | GCGCTAAACA | ATAAAAATTA | CCACTTATTA  | GCAGACGATA | ACAACATTGA | 840  |
|    | TGTACTGGAT  | TTTAAAGCGC | AGTTTAAATC | TAATACTGAA  | GTGAATTTAT | TAGATCAACA | 900  |
| 5  | TGACGATATC  | GTCGATAGTA | TTACTGCACC | TCATATCATT  | ATTAATACCG | GTGCTACCTC | 960  |
|    | TGTCATTCCCT | AACATTAAAG | GCCTTGATCA | AGCTAAACAC  | GTCTTCGATT | CGACAGGTTT | 1020 |
|    | ATTAAACATT  | AGCTATCAAC | CTAAGCACCT | CGTTATTGTA  | GGTGGCGGTT | ATATCGCCTT | 1080 |
| 10 | AGAATTTGCT  | TCAATGTTTG | CGAATTTAGG | TAGTAAGGTA  | ACAGTATTAG | AACGTGGCGA | 1140 |
|    | ATCATTTATG  | CCACGCGAAG | ATCAAGATGT | CGTTGCATAT  | GGTATTACTG | ACTTAGAAAA | 1200 |
| 15 | TAAAGGCATT  | GCATTGCATA | CAAATGTTGA | AACGACTGAA  | TTGTCATCTG | ACAATCATCA | 1260 |
|    | TACAACAGTC  | CATACCAACG | TTGGTAACTT | TGAGGCTGAT  | GCAGTACTTT | TGGCTATCGG | 1320 |
|    | GCGCAAACCG  | AATACGGATT | TAGCTTTAGA | AAATACTGAT  | ATCGAATTAG | GCGACAGAGG | 1380 |
| 20 | CGAAATTAAA  | GTCAATGCTC | ATCTTCAAAC | AACTGTGCCG  | CATATTTATG | CTGCAGGTGA | 1440 |
|    | TGTTAAAGGC  | GGACTTCAAT | TTACGTATAT | ATCTTTAGAT  | GATTATCGAA | TTATCAAATC | 1500 |
|    | AGCGTTATAT  | GGTAATCAGT | CACGTACGAC | TGACAATAGA  | GGCAGCGTGC | CTTATACAGT | 1560 |
| 25 | ATTTATAGAT  | CCACCATTAT | CACGTGTTGG | ATTAAGTAGT  | AAAGAAGCTG | CCGCTCAACA | 1620 |
|    | TTATGATTAC  | ACTGAACATC | AACTTTTAGT | AAGTGCTATA  | CCTCGTCATA | AAATTAACAA | 1680 |
|    | TGATCCAAGA  | GGTTTATTTA | AAGTAGTCAT | TAATAATGAA  | AATAATATGA | TTTTAGGTGC | 1740 |
| 30 | TACATTATAT  | GGTAAGCAAT | CTGAAGAATT | AATTAATATA  | ATTAACTTG  | CGATTGATCA | 1800 |
|    | AAACATTCCA  | TATACCGTAT | TACGAGATAA | TATTTATACG  | CATCCTACGA | TGGCCGAATC | 1860 |
|    | ATTTAATGAT  | TTATTTAATT | TCTAGACAAA | ACATAAAAAAC | CTGGTGGCAC | GCATTGAATG | 1920 |
| 35 | ATGCTGCCAT  | CAGGCTTTAT | TGTTGTGCTT | TTCGCTTTTC  | TAATTTTTCT | TTAAGCTTTC | 1980 |
|    | TATCFTGTTT  | TTCTTTACGA | CGTTTACGTT | CTTCATGTCG  | TTTTCTTAAA | CGCTCTTCTT | 2040 |
| 40 | CTTCAGGATC  | ACGTGGTTTC | TTTAATTGTT | GAGAACTTT   | TTCGATTAAT | TCTTCTTCAG | 2100 |
|    | TAAGCGCagc  | CAGTGGGCGG | TTATTAACAA | AAGTGAATGT  | TTTTCGGCGT | CCAGGTCCAC | 2160 |
|    | AATAAGATTG  | ACAACCTATC | ACGATTTTCT | CATCGGGATC  | TAATTTTTCC | AACTTCTTTT | 2220 |
| 45 | GTAACGTTCT  | TATATTGACT | GCCTGACATT | CATCACAAAT  | AAGGAATGTA | TTTTTCATAT | 2280 |
|    | TGCTACCCAC  | CTTCTTTTAT | CATATCTATA | TCGTCGATTT  | CATTAATTTT | TTCGTAACT  | 2340 |
|    | CTATCTATTT  | TACTCTTTTT | AATATTTTTT | TCAAGATACG  | TAACACGGCT | GaCAATAAAA | 2400 |
| 50 | AATGGAGCAT  | TTATCTTCTA | ATTAAATTAG | ATGaTTGCTC  | CCCTATCAAA | TCATTTATTG | 2460 |
|    | CCCATGATAA  | ATATTAAATT | TTAATGGTTT | AATACCATGT  | TTTGTCCATT | CATCATAAAT | 2520 |

|    |  |      |
|----|--|------|
|    | TGATGTTTTA GATGCGCCGT GATACTTTTC AGCAATATCA CACAAATATT TTAGCTTTTC  | 2640 |
|    | AGTTTCTATA TCAACTGTAG CTTCTTTATC CATACGTTGA ATAATTGTAC GATTCTGACG  | 2700 |
| 5  | CACCATCTTT TGCACACCTT TAATGTTATT TGTTTTAAAA GCATGAATAA GTTTTTCAAC  | 2760 |
|    | ACAACGATGT GAATCTTCTA AGAAGTCACC GTAAAATGAA GGATCTGATT TCAAACGTTT  | 2820 |
|    | CACTTCGCTA ACAAAGTGTG GTGATGACGC CGGTGAGCCA GTCCAACCGA TAAGTACTTC  | 2880 |
| 10 | CATATTTTCA GGTGCTTGTA ATGGTTCGAT GTGCAATCCA GGCCAGTTTT TGATTAAAAAC | 2940 |
|    | TTCTTCAACC GTAGTATCTT CAATTTGATG CTTAACCCAT TCATGATCAA AAGTACTATA  | 3000 |
|    | CGCTAGCCAT CCACTATATA CACTCACAGC AATATCTCOG CATGAACTTA AACTTTGTAA  | 3060 |
| 15 | CTTCATATTT GCAATCACTG CTAGTTTATA AATGTATAAA TTAGATAACT TCATATCATA  | 3120 |
|    | AAATTCATTT AATACTTTTA TAACTGACAC AAGTACTGCT GCACCTGAAC CTAATCCATA  | 3180 |
| 20 | TTTATGACCA TTTGAATCAT CTAAATTACT ATCAATAGTC AGATGAAAAT GCTTCATCGC  | 3240 |
|    | TATATCGCAA CTTTTGCGGT ATTGTTCAAA TATTTCAATA GCTGTGACCA CATAATTTAA  | 3300 |
|    | TTGTTTGTCT GcATGTGGAT CTGAAATGAC AATACTATCT TCATCTCTAC TAAATGTAAC  | 3360 |
| 25 | TGGGTTATGA TGTAATGCTT TTGAATGAAT GGTACCTTTA TATTGGTCTG CTTCTTCAAT  | 3420 |
|    | AGTAGCAGTT ACAAAACGAT CTAACGCAAT AAGTACAGAT TTATATCCTG GTTCTGTTAC  | 3480 |
|    | AGCATATTCT CCAGCAATAT AAAGTTTTCC GGGTGCTTTG ACCTGAATCA TTTTATCTCT  | 3540 |
| 30 | TCCTTACTCA ATTATTTCAA TTCCTGTGGC AATAATGTCA CTATCAATAA TTTGGTTATT  | 3600 |
|    | ATCAAACGTG GTTAATAATT TATCTATAAT CTGTTGCTTG TTTTCTTTT CTACAAGTAT   | 3660 |
|    | TTTCACATTA GGTCCCGCAT CCATTGTAAA ATAACACGGA TACCCCGCTT CTCGGCATTG  | 3720 |
| 35 | GTGAACAAGC GCCATGACAT CATAACTTTC TTGCACAAGA TATGTGAACG GCGGTGTTGA  | 3780 |
|    | TCCTAGATTG GTGGCATGCA TACGCAAACC ATTTTCTTCA ATTACTTCAC CAAGGCGTTT  | 3840 |
|    | AAAATCTTTG TCTTGAATCG CTGCTTTTGC TTCAGCTAAA TCTTCATCAA TATGATCTAA  | 3900 |
| 40 | CCAATATTGA TAAACCTTG ATGTGTTTCG TGTCAATGAC ATACCATATC GACTAGGTAC   | 3960 |
|    | CTTTTTAGAA TGTTGATTAA TCACAACAAA TATCATGGCA AGGTCATCTT CAAAATGATT  | 4020 |
| 45 | CGATTCAAGT GGAACGGCAT ATGACGTCTC ATCACTATAC CCTTTTTCCC ATTCTGCAAA  | 4080 |
|    | TCCACCATAA ATACTACGCG ACGCAGAACC CGAACCAATT CGCGCCAATC TCGATAAATC  | 4140 |
|    | CTTATCTGAC AGCTGCATGT CTAGCGCTTG ATTACAAGCT GCTGCTAAAG CTGCATATGC  | 4200 |
| 50 | GCTTGCCGAT GAAGCCAACC CTGCTGCTGT TGGTACAAAA TTGTCGCTTT CAATTTCTGC  | 4260 |
|    | ATACCAATCG ATGCCAGCTC TATTTCTGAC AATATCCATA TATTTTGAAA TTTTCTCTAA  | 4320 |

AAAAGTGACT TTCGTTTCAG TGTA AAAATTT TTCTAATGTA ACAGATATGC TATTATTCAT 4440  
 TGGAAATGATT AGTGCTTCAT CTTTTTTACC CCAATATTTT ATAAGTGCAA TATTCGTATG 4500  
 5 TGCACGTGCT TTGCCACTTT TAATCAACGC ATTAACCTCC TAAATTCTCA ATCCAAGTAT 4560  
 GTGCTGCACC AGCTTTTTCT ACAGCTTTTA CAATATTTTT CGCTGTTGGT AAATCTTTGG 4620  
 CAAGCAATAA CATACTTCCA CCACGACCAG CGCCAGTAAG TTTTCCAGCA ATCGCACCAT 4680  
 10 TTTCTTTACC AATTTTCATT AATTGTTCTA TTTTATCATG ACTAACTGTC AACGCCTTTA 4740  
 AATCCGCATG ACATTCATTA AAAATATCCG CTAAGGCTTC AAAGTTATGA TGTTC AATCA 4800  
 CATCACTCGC ACGTAAAACT AACTTACCGA TATGTTTTAC ATGTGACATG TACTGAGGGT 4860  
 15 CCTCACAAAG TTTATGAACA TCTTCTACTG CTTGTCTTGT TGAACCTTTC ACACCAGTAT 4920  
 CTATAACAAC CATATAGCCG TCTAACTTA ACGTTTTCAA CGTTTCAGCA TGACCTTTTT 4980  
 20 GGAACCAAAC TGGTTTGCCT GATACAATCG TTTGCGTATC AATACCACTT GGTTTACCAT 5040  
 GTGCAATTTG CTCTGCCCAA TTAGCCTTTT CAATGAGTTC TTCTTTCGTT AATGATTTCC 5100  
 CTAAAAAATC ATAACCTGCA CGAACAAAAG CAACCGCGAC AGCTGCACTC GATCCTAATC 5160  
 25 CACGTGATGG TGGTAAATTC GTTTGGATCG TTA CTGCTAG CGGCTCTGTA ATATTATTTA 5220  
 ATTCTACAAA ACGGTTCAAC AAAGACTTAA GATGGTCAGG CGCATCATAT AACATACCAT 5280  
 CGTAAACATC GCTTTTAATA GACGAATAGT TCCCGCTCTC TAAGGCTTCT ATTA AAACTT 5340  
 30 TGATTTTACC TGC GTTAAAC GGTACTGCAA TAGCAGGCTC TCCAAATGTA ACAGCATGTT 5400  
 CTCCTATTAA AATAATCTTA CCTGTGATT CCCCATATCC TTTTCTTGTC ATGTCAATAT 5460  
 CACCTTTTAT ATTTATCCTA TACTTGATT ATTATTTTTA TTTATTAGTA AAAGACATCA 5520  
 35 TATTCTAAGT TGCA tngCAT TCGGT TAAA TTTCA TTGCA GTCTTTATCT CACATTATTC 5580  
 ATATTATGTA TAATCTTTAT TTTGAATTTA TATTTGACTT AACTTGATTA GTATAAACT 5640  
 AACTTTCGTT TACTTCAAAG TTAAATCTT ATCGAGTGAT ATTCAGATT CTTTATCTTT 5700  
 40 TTATAAAATA GCCCTACAAT TTATAATTTT CCACCCTAAC TATAATACTA CAAATAATAA 5760  
 TTGGAATATA TAGATTTACT ACTAAAGTAT TAGAACATTT CAATAGAAGG TCGTTTCTTT 5820  
 CATAGTCATA CGCATTATAT ATACCCTATT CTCAATCTAT TTAATACGTA AAACATGAAA 5880  
 TTTTCTTATT AAATTTATTA TTTCCATCAT ATCATTACTT TTAATTTAAT GATGTTCAAT 5940  
 TTAAATATTA GGTCAATAAC ATATTTATGC TTTTATGGA TACTTTCAAA AATAACAGCC 6000  
 50 CCAAACGATA ACTTGAAAGG GGCTGT TAAA TATTTAACTA TTGCATTTGA TCTATCATTT 6060  
 TCTTGTTTCT TTCAATCATT TTATCAAAAT ACGTATCGTA TCTTTGCCAT TCTTCTTGAG 6120

|    |             |            |            |            |            |            |      |
|----|-------------|------------|------------|------------|------------|------------|------|
|    | TTACATCTTG  | AACAGTAATC | GTTTTGTAA  | GCAATGTCTC | TAATGAGGCC | ATACAAGATG | 6240 |
|    | GTTCAAATTC  | AGGATATTTA | AATTTAGTCA | CTTCACCTTT | TAAAGCATGT | TCATAAAATG | 6300 |
| 5  | TTTGCATCAT  | CAATGCACGT | TCTGAACCAG | AGCCTTCAAC | ACAAAGATAA | ATTTGTACAG | 6360 |
|    | CAATACCGCC  | TCTAACTCTT | CGTTGCGATA | TGCCTGCAAA | TTTCTTACCA | TCGATACTTA | 6420 |
|    | AGTCAAATTT  | TCCTGGGCAA | TAAGAATGTT | CAATTTCCAT | CGTATCAATA | TCAACATTCT | 6480 |
| 10 | CATTTTCGAA  | CATTTTGCTA | ATTAAGAGGT | ACATCACAGT | AAACGCTTCA | TCAATCGTTG | 6540 |
|    | TTTCTGTTTG  | TCCTTTGAAC | ATCAGCGATA | TATTTAATAC | ACCTTGATCT | AGAACGACAC | 6600 |
|    | CTAAGCCACC  | AGAATTTCTA | ACAATGGCAT | TATAACCAAT | CTCATTCGTT | AAATAATCAA | 6660 |
| 15 | TGCCATCTTT  | TAAAAACGGC | AATCTTGAAT | CATGAATACC | AAGAATAACA | GTATGTTGAT | 6720 |
|    | GAATCCAAGT  | ACGCACAACA | TTATCTGATA | TATCTTTGCC | CACACTTTCG | CAAAATGTAT | 6780 |
|    | CATCGAATGC  | GAAAGATTGC | ATAGGTTCTA | ATCCAGAAGA | ATGATCGATA | TATCGCCAGT | 6840 |
| 20 | TGACGCCATT  | AAAATATTTA | CTCGCTAAAT | CCATCGTTAT | TGTAAGGCTT | GCGCTGCTGT | 6900 |
|    | AATAATTGAA  | AGATTGTATA | CATCTTCAAT | TGAGCAGCCA | CGTGATAAGT | CATTTACTGG | 6960 |
| 25 | AGAATTTAAA  | CCTTGTAATA | CTGGACCAAC | TGCATCATAT | CCACCTAAAC | GTTGTGCAAT | 7020 |
|    | TTTGTAACCA  | ATATTACCAG | CTTCTAAACT | TGGGAATACA | AAGACATTTG | CATCACCTTG | 7080 |
|    | TAATTTAGCA  | CCTGGCGCTT | TTTTCTCAGC | AACACCTGGT | ACAATCGCAG | CATCAAATTG | 7140 |
| 30 | GAATTCGCCA  | TCAATGATTG | CTTCTAATTT | TtCTTCTTCA | GCTTTTtGTT | GTGCTAATTT | 7200 |
|    | GACAGCTTCT  | TGAACTTTTG | TCACGTCGTC | TGATTTAGCA | GACCCTTTTG | TTGAAAAGCT | 7260 |
|    | TAACATTGCA  | ACTTTTGGAT | CCATGCCAAA | GCTTAATGCT | GATTTTGCAC | TTTCTACTGC | 7320 |
| 35 | AATTTCTGCA  | AGTCCTTGTT | AATCAAGTTC | TGGATTGATT | GCACAATCAC | CAAAGATGTA | 7380 |
|    | TTGTTTCATCA | CCTTTAATCA | TAAAGAAGAT | ACCTGATGTT | CTTGATACAC | CTGGTTTCGT | 7440 |
|    | TTTGATGATT  | TGTAAAGCTG | GACGCACAGT | GTCGCCTGTT | GAATGTGCTG | CACCACTAAC | 7500 |
| 40 | TAAACCATCT  | GCTTTACCAG | CATAAACAAG | CATTGTACCG | AAGTAGTTCA | CATTGTTTAA | 7560 |
|    | TAATTCTTGT  | GCTTGTTCTT | CAGTCGCTTT | ACCTTTACGT | CGTTCAACAA | ATGATTGAAC | 7620 |
|    | TAATTCAGCT  | TTCAATTCAC | TTGTGCGCAG | ATTAATTAAT | TCAATATTAG | AAATATCAAG | 7680 |
| 45 | ATCAAGTTTT  | TGCGCTAAAG | ATTGAACCTT | AGTCTCATCA | CCTAACACGA | TTGGTGTAAC | 7740 |
|    | ATAATCTGTT  | GCTTGTAATT | GTGTTGCAGC | TGTTAGAACA | CGTTCGTCCT | CTCCTTCAGG | 7800 |
| 50 | TAATACGATT  | TTAACGTTTT | TACCAGAAAG | TTTGTCTTTT | AATACATTTA | ATAAATCAGC | 7860 |
|    | CATAATGTCC  | TCCTGTAATA | TAAATCTTAT | TAATCATTCA | CGGTATAATT | ATACGCCATT | 7920 |

|    |            |            |            |            |             |            |      |
|----|------------|------------|------------|------------|-------------|------------|------|
|    | TATGATAAAA | TTTATAAAGA | ACTGATGATT | TTTGAAAAGG | AGCGATAAAC  | ATGAGTCAAG | 8040 |
|    | CAGCCGAAAC | ATTAGATGGT | TGGTATAGTC | TACATTTATT | TTATGCAGTT  | GATTGGGCAT | 8100 |
| 5  | CATTACGTAT | AGTTCCAAAG | GACGAACGCG | ATGCACTTGT | CACTGAATTT  | CAATCATTTT | 8160 |
|    | TAGAAAATAC | AGCAACTGTA | AGATCATCAA | AATCTGGTGA | TCAAGCTATT  | TATAATATAA | 8220 |
| 10 | CTGGTCAAAA | AGCAGATTTG | TTATTATGGT | TCTTACGTCC | TGAAATGAAG  | TCTTTAAATC | 8280 |
|    | ATATTGAAAA | TGAATTTAAC | AAATTGCGCA | TTGCTGACTT | CCTAATCCCT  | ACATATTCAT | 8340 |
|    | ATGTATCAGT | CATTGAATTG | AGCAATTATT | TAGCTGGTAA | ATCTGATGAA  | GATCCTTATG | 8400 |
| 15 | AGAACCCTCA | TATCAAAGCA | AGATTATACC | CAGAATTACC | ACATTCTGAT  | TATATTTGTT | 8460 |
|    | TCTATCCAAT | GAACAAACGT | CGTAATGAAA | CTTATAACTG | GTACATGTTA  | ACTATGGAAG | 8520 |
|    | AACGCCAAAA | ATTAATGTAT | GACCATGGTA | TGATTGGTAG | AAAATATGCT  | GGCAAAATCA | 8580 |
| 20 | AACAATTTAT | TACTGGTTCT | GTAGGGTTTG | ATGATTTCGA | ATGGGGCGTA  | ACATTGTTCT | 8640 |
|    | CAGATGACGT | ATTACAATTC | AAAAAAATTG | TATACGAAAT | GCGCTTTGAT  | GAAACAACAG | 8700 |
|    | CACGATACGG | TGAATTCGGT | AGTTTCTTTG | TAGGACATAT | TATTAACACA  | AACGAATTCG | 8760 |
| 25 | ATCAATTCTT | TGCGATTTCT | TAATACATTG | GTACGTTTAT | AAATTAATAA  | AAAAATTCCA | 8820 |
|    | AGCTTATCGG | TTTAAGCTTG | GAATTTTTCG | TTTATCTTCA | GTATATTCCC  | GTATACATAA | 8880 |
|    | GACGTGATTT | GGTAAATAGT | TGAAATCTGT | ATGTTTAAAC | TTATATATAT  | GTGCTAATGT | 8940 |
| 30 | ATTATCAATA | ACAAAGtACA | CTTTGCTCAT | AGCAAgTsaC | CCGAgTAGTC  | TTCCTTGGGA | 9000 |
|    | GAACTTTAAC | TACTATCACT | ACATATAAAC | GTTAACCTCA | ATAGAAATTA  | TACAGTCGCT | 9060 |
|    | ACTCTATACA | ATTTTTGTAA | TGGTTAACTA | ATATTATTTT | AACCTATTTG  | AAATATTTGA | 9120 |
| 35 | AACATATTTT | TGTCGAATTT | TTTTCAATAA | TTTTTCCTTT | TTATACTTCA  | AGAGAATTTT | 9180 |
|    | AACTACTAAA | AATTCCGATG | ATTATTATTA | CAATAGTATC | AAATATTAGT  | TTTTTAAAT  | 9240 |
|    | CAATAACAAC | TTATCAAAAA | GCTCATGTGG | TTATTTTATA | GTGTATAAAC  | TATAATGAGT | 9300 |
| 40 | ATTAAATTCT | TATAAACAAT | GGTGATGAAA | TGGACATAAA | TTCAGAAGAA  | TACAAACAAG | 9360 |
|    | AGGTACTTAT | CAAAGACGTT | GTCATGCTTG | CTGCTCGCAT | ACTATTAGAA  | TCTGGTGCAG | 9420 |
| 45 | AAGGTACGCG | TGTAGAAGAT | ACCATGACAC | GTATTGCAAA | AAAAC TTGGT | TACAGTGAAA | 9480 |
|    | GTAACAGCTT | TGTTACAAAC | ACTGTCATCC | AGTTTACGTT | ACATTGGGAA  | TCGTTTCCTA | 9540 |
|    | GAATATTTAG | AATTACCTCT | CGAGATACAA | ACTTAATAAA | AATTTCTCAA  | GCTAATAAAA | 9600 |
| 50 | TTTCGCGTCA | AATTACAAAC | AATGAAATTT | CTTTAGCCGA | AGCAAAAACG  | CAACTTGAAA | 9660 |
|    | AAATATATGT | TGCTAAGCGT | GACAGCAGTC | TTCCCTTTAA | AGGTTTTGCT  | GCAGCAATGA | 9720 |

|    |  |       |
|----|--|-------|
|    | TAGCAGGTAG TCTAGGATAC CTAGTCACTG AGATTTTAGA TCGTAAGTWA CACGCACAGT  | 9840  |
|    | TTATCCCAGA ATTCaTTGGT TCaTTAGTTA tTGGGATTAT CGCCGTTATT GGACATACAC  | 9900  |
| 5  | TTATTCCAAC AGGTGACTTG GCAACTATTA TCATTGCGGC AGTCATGCCT ATTGTTTCCTG | 9960  |
|    | GTGTATTAAT AACAAACGCA ATACAAGATT TATTTGGTGG ACACATGTTG ATGTTACAA   | 10020 |
|    | CGAAATCATT AGAAGCATTG GTTTnGCGTT TGGCATCGGT GCTGGCGTTG GTAGCGTATT  | 10080 |
| 10 | AATTTTAGTA TAGGAGTATC AGACTATGTT TTGGATCTTA AACTTTATCT TTAGCTTTTT  | 10140 |
|    | AGCTTC   | 10146 |

## (2) INFORMATION FOR SEQ ID NO: 244:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2022 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 244:

|    |   |     |
|----|---|-----|
| 25 | ATTTAATTGG TTGGTGGCGT ATTCTChTTT CCAAGATTTG CCACGATTGG ATGTTCAGTC | 60  |
|    | GACAAATATG TAACCAGTCC CGATAAATTA CGTTCCTCAA TCATTGATAG TATGTCTGGT | 120 |
|    | GTTTGTAACG ATTTATCGAG TAAGGCATCA AGCAATTGAT AATGTCCCAA TACAACAAAA | 180 |
| 30 | TGCACGTTGT CTCTCAACTG CTGTTGAATA AACTGAATAA AGAGCTTTAA GCTCTGTTGC | 240 |
|    | ACATTGCTA ATGATGGTGC ATAGTTTTCC AAACCAACTT GTACAGCCGC TTCATTATTC  | 300 |
|    | CGAATGATTA AACCTGTGTA TGCCACTTTT GTTGCTGCAG TTGGATACAT TGAGTAATAA | 360 |
| 35 | CGCAATAATT GATCTGTAAA ATCATTTCGA AGTGCATAAA TTTGATGCTC ATGTTGCCAA | 420 |
|    | AAATtTCGCT CACCCATCTG CTgCAAATCC TCATGGTTCA ATTGTTTCCA GTCCAACTTT | 480 |
|    | TCAACCACAC TAAAATCAAC TAACTCATAA TCCGCTTTAT TAAAATATTT TAAAAATGCT | 540 |
| 40 | GTTTCCGATT CTTTTAACGC AATTAATTGT TCTGnATTAT TCACTCGACC ACCCTTTACT | 600 |
|    | TTCAATACTG TATTTAAAAT CACTTGGTAT TTTGTTGTT TGCTTTACTT CTCTACCACG  | 660 |
| 45 | CTAAAGTGTA ATATGATTAA TAACTTATCA TTTTtagCAA TACATTACAA CCTTTTTCAG | 720 |
|    | AAAATTCGGT GTATTGATTT TAAAATTTTT TAAAATanAA AAGGCAAGAC ATTTGTGCCT | 780 |
|    | ATAAAAATGC TTAACCAAGA TTTTATATT GaAGTTGTAC TTCTTGACA TATTGTCCTT   | 840 |
| 50 | GCCTTATTAT GTAAAGTTAT TTTCTTCTA TCTTTTTATT AAATTTAACT ATTCTTCATA  | 900 |
|    | ATCCCGATT CTTTTAAAGT AACGTCTATC TTGTTTACTA TATACATTTT CAGGATTAAA  | 960 |

|    |   |      |
|----|---|------|
|    | TTGGTAAACG TTCGTTGCTG ATATATCTGT AAAATTGTTT GGACCGACAC CTGCAATAAA | 1080 |
|    | CTTAAACTCT GCTTCATCTA CCAAATAATC ATACGCTTGT GTATGTCTAT CCTGTGCGCC | 1140 |
| 5  | ATGTGGAAAT ACAACATAT CTGTTTTACC TACAATTGGT TCAACTTCAT CTTTCCATCT  | 1200 |
|    | TTTAGTATCA CGTTTAATAC CTTCTAAAGA TGTTTTTTCA AAATTAATGT GACCATATGA | 1260 |
|    | ATGACTCGCA AATGACCATC CATCCCGTTT CATTGCGCGA ACAACTTCCT CAGCTGCCTT | 1320 |
| 10 | TTTATTCTTT GTATAATCTT TACTCGTTAA TTCATTCTGT CGATAACCTA ATACGCCCTC | 1380 |
|    | ATAACCGGTT AAAGCAACAA CACCTTTTTC ACCATTTAAA GAAAAATCTG GATGCTCTTT | 1440 |
| 15 | TACAAATTTA TTTAAAATTG GCACGATATC ATTGTCATCA GAATAAGTAG CATGGCCTTT | 1500 |
|    | TTTGTCTGTA GTTTCAGAAA CAACATGTTT ATTTTTATCG AGTACTAAAC GGTCAGCATA | 1560 |
|    | ACCATGGTGT CTCATGTAAC TATAGTAATT CATATCATCA ATTGAGATGA TTAGTGGCTT | 1620 |
| 20 | TTTACCTTTC GGCAATTTTA TTTTTTTGGC TTTTACATGA TGAGATGATA AGTCGTATAC | 1680 |
|    | ATCATGTGGA TTAACGATGA TGTAATTATT TTTATATAAT TCGTTCAATG ATTTTTTAAA | 1740 |
|    | TTCACTTACA GTAATCATCC AATCATTGTT GCCCTTAGCT TGGTGTGTAT CTCCTGTAAA | 1800 |
| 25 | CGCAACTTTT GGGTCTGTAA TTAATGGGTG ATAAAACACA TGATAAACTT GGCCGTGATA | 1860 |
|    | TGTTTCCCAA TGTCATCCA TTTTCGATTT aTGCTTTGCA TACTCATTTG GATTAAACAGA | 1920 |
|    | TTTATTkTGA GCTTTCTCAT TTTGCTTGA ACAGCTATAT mACAATGCAA CTGATAATAA  | 1980 |
| 30 | CAGAAAAAT AGCAATAAAT ATTTTTTATG CATTAAACAT TC                     | 2022 |

## (2) INFORMATION FOR SEQ ID NO: 245:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1340 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 245:

|    |   |     |
|----|---|-----|
|    | ATAGAGTGAT AAAGGATGGT TGTCATATGA TAAATGCAGT AGTAATAGCA GTAATTTTAA | 60  |
| 45 | TGATTGTGCT ATGTTTATGT CGATTAAACG TnTTATTAAG CTTATTTATC AGTGCCTAG  | 120 |
|    | TTGGTGGCTT AATTTAGGC ATGAGCATTG AAAAAGTTAT AAATGTATTT GGGAAAAATA  | 180 |
|    | TAGTCGATGG TGCTGAGGTA GCATTAAGCT ATGCTTTATT AGGTGGATTT GCAGCATTAA | 240 |
| 50 | TTTCATACAG TGGTATCACA GACTATTTAG TAGGAAAAAT TATAAATGCA ATTCACGCTG | 300 |
|    | AAAATAGTCG ATGGTCAAGA GTTAAAGTCA AAGTGACAAT AATCATTGCA TTATTAGCTA | 360 |

|    |   |      |
|----|---|------|
|    | CACCAATTGTT AAGTCTGTTT AATGACTTAA AAATAGATAG ACGTTTAAATC GGTTTGATTA | 480  |
|    | TCGGTTTTGG TTTATGTTTC CCGTATGTGT TATTACCATA TGGATTCCGGT CAAATTTTCC  | 540  |
| 5  | AGCAAATTAT TCAAAGTGGC TTTGCAAAGG CAAATCACCC AATTGAGTTT AATATGATTT   | 600  |
|    | GGAAAGCAAT GCTTATTCCT TCAATGGGGT ATATTGTTGG CTTACTTATC GGTTTATATG   | 660  |
|    | TATATCGTAA ACCACGTGAA TATGAAACAC GTAAAATTTT AGATAGTGAC AATGTTACAG   | 720  |
| 10 | AGTTAAACC ATATATCTTA ATAGTAACAA TTGTAGCAAT ACTAGCTACA TTTTGTAGTAC   | 780  |
|    | AAACATTTAC AGATTCAATG ATTTTGGTG CACTGGCAGG GGTACTCGTA TTCCTTTATTT   | 840  |
|    | CACGTGCATA TAATTGGTAT GAATTAGATG CTAAGTTTGT TGAAGGTATT AAAATTATGG   | 900  |
| 15 | CTTATATTGG TGTAGTTATT TTAACAGCAA ATGGATTGTC TGGTGTAATG AATGCTACTG   | 960  |
|    | GTGATATAGA TGAATTAGTT AAAACTTTAA CAAGTATTAC TGGTGATAAT AAATTATTTA   | 1020 |
|    | GCATTATCAT GATGTATGTG ATAGGTTTAA TTGTCACTTT AGGTATTGGA TCATCATTG    | 1080 |
| 20 | CAACAATTCC TATTATCGCA TCATTATTCA TTCCTTTTGG AGCGTCAATT GGA CTAGATA  | 1140 |
|    | CAATGGCATT AATCGCATTG ATTGGAACAG CGAGTGCAAT AGGTGACTCA GGTTCGCCTG   | 1200 |
| 25 | CAAGTGATT C AACATTAGGA CCAACTGCGG GATTAAATGT TGATGGCCAm CATGATCATA  | 1260 |
|    | TACGTGATAC ATGTGTACCA AACTTCTTGT TTTATAATAT TCCTTTAAAT GATTTTCGGT   | 1320 |
|    | ACTATTGCTG CTATGGTACT   | 1340 |

## (2) INFORMATION FOR SEQ ID NO: 246:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3365 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 246:

|    |   |     |
|----|---|-----|
| 40 | CAAAATCTAA GAGAATAAaA TTTGTTAATT TnAAATAGCA AGCAATTCAA AGTTATATGT | 60  |
|    | GTAATAGATA AAATAGATAT CCCTATAGTG ATGCGTTACT AGCTAAACAT AATAACACAT | 120 |
|    | TAGAAGATAA TGAAGTTAAG GAGTTACTGG ATTGTTTCGA CTATGTAATT AAGTATAAAA | 180 |
| 45 | ATATCCAACG ACAAACGTA ATTATAAAAI GGTAAAAGCT ATGGTACAGT TTCAAATTGC  | 240 |
|    | TAATGACATG CGTATCGGTG AGCTACTTGC AATAAAGAGA GTAAATATAA ACTATGAAGA | 300 |
| 50 | TAAAACGCTA GATATCGACG GTAAAGTTAA TTGGATAACT GAAAAAAGAC GGGAGCATTC | 360 |
|    | GGAGTAAAGG AGACAACTGA AAGAAGTAAT AGCTATAAGG CCACAGGGCT CACTACCCAA | 420 |

|    |             |            |            |            |            |            |      |
|----|-------------|------------|------------|------------|------------|------------|------|
|    | TATTCACAAA  | TACGTCTGGT | AGCCCTATCG | ACTCGAACAA | AATTAGCCAC | ATTATTAAAG | 540  |
|    | GGGGGCGCTG  | ATATTAGTTC | TATTAAGAAA | CCTATAACGA | CGCATACATT | ACATCATTCG | 600  |
| 5  | CATATATCTA  | CACTTGCTCA | ATTAGGAATT | AACTTAAAAG | CAATGCAAGA | GCATGTAGGT | 660  |
|    | CATTCAAGATT | ATAAAArAAA | TCTAGAGATA | TACACACATG | TTACTAATCA | GATGGCGAAA | 720  |
|    | GATATGATGA  | ATAAAATTGA | ACGATTGGGG | AGTTAAAATT | GGAAAAAGAT | GaTACACTAG | 780  |
| 10 | CAGAAATTAA  | GCCTATGCTC | AATTTTGATG | AGCAAATAGC | AAAATTAAAA | CAGATGAATA | 840  |
|    | TATTTTTTAA  | TATTATTGAC | ACCGAAAAAG | CAAATGAAAT | TCTTAGAAAA | AATAATTACT | 900  |
| 15 | TCTTCAAAC   | wGcTTATTTT | CGaAAAAATT | TCGrAAAAAA | GaATGGCGGC | TATTTCATAG | 960  |
|    | AATTTGCTTA  | TTTATCAGAT | TTAGCAACTA | TAGATATGaa | ATTAAGATAC | ACAATGTTGC | 1020 |
|    | ATTTAACTTT  | AGATATTGAA | CATAGTTTAA | AGTATCTAGT | CTTAAACTA  | ATAACAGAAA | 1080 |
| 20 | ATAACCAAGA  | AGATGGTTAT | AAAATAATAG | ATGAGTTCTT | ATGTATTGaT | AAATCATATA | 1140 |
|    | GCAATTCAAA  | TTTTGACACA | AATTCAAGAA | CACCAGAAGA | AGTTATGGAA | ACCAAAATCA | 1200 |
|    | AAAATAAAAA  | CGAAATATTC | AAGCATATGA | ATAAACGAGG | ACAACTACCC | GAGAAGTTGa | 1260 |
| 25 | ATAAATACTA  | TCmAAATCCA | CCCGCnnGGk | TTTGCaTTGr | ATTCATGCAA | CTAGGTCAAT | 1320 |
|    | TCGTTTCGTT  | TCTCAACTTC | TATTACAAGA | AGTACAATGA | CGAAGAATTG | AGAGTTGCTA | 1380 |
|    | ATATTTTAA   | GCCTTTAGTT | AAAAATATAA | GAAaCAAATC | AGCTCATAAC | CAACCCATCA | 1440 |
| 30 | TAGCAAATCT  | AAATTATGAC | AGTAGATTAC | CTCAATATTT | ATTTGAAAAA | GGGAATAATA | 1500 |
|    | TAGGCATATC  | TAGAAACATG | TTCGGAATAA | AAAATTTTCA | AGATACTkTC | ksTACGCTAG | 1560 |
|    | AATTACATAA  | TCAAGTTTGT | AGTAATGCAA | TTATCCAAGC | AAGATATCAC | GATTTGGACC | 1620 |
| 35 | AACTTCAAAA  | GCGATATAAA | AGrAACGrAA | GCTATTATAA | TAATGCATTA | GCTATCAAAA | 1680 |
|    | GATTfTTTAT  | AGCTTTAGAT | AAAATTATTG | ACTTCAACAG | ACCAAAAGTA | TAAACTATCT | 1740 |
|    | AGTGAGGAAA  | GAGACTTATA | GGTCTCGCGA | GTTATTTTAA | TTCGTATGCA | AGAAAAAGAA | 1800 |
| 40 | GAGCTATGCA  | TTTTATTTAA | AATGCGTAGT | TCTTtTTTAA | TGCATCTAAA | TTCATATTAT | 1860 |
|    | TTTTGCAATA  | TAAACATATC | TTTGTGCAAA | TTCCGAACAC | AAAACATTCA | CATCATCCTT | 1920 |
| 45 | TTTtGCCCTT  | TTTCTATACC | CCAAAACACA | AAAAGCCCCG | TAAGCCTATG | CcTACGGGgT | 1980 |
|    | TTGACAATAA  | ATTATATATT | ATTGTTCTTC | TTTAACATAT | GGTAATAATG | CCATATGACG | 2040 |
|    | AGAACGTTTG  | ATAGCTGTAG | TCAaCATACG | TTGATATTTA | GCTGAAGTAC | CAGTTACACG | 2100 |
| 50 | ACGTGGTAAA  | ATTTTACCGC | GTTCTGAGAT | AAAACGTTTT | AATAATTCAG | TGTCTTTGTA | 2160 |
|    | GTCGATATGT  | GTAATACCAT | TTGCTGTGAA | ATAGCATACT | TTTTTACGAC | GACGTCCGCC | 2220 |

|    |   |      |
|----|---|------|
|    | CGTTAATTTT TATTAGAATG GTAAGTCATC ATCACTTATA TCAATCGGTC CGTTTGCATT | 2340 |
|    | TGCAAATGGA TTATCAGATT GTTTCGTGTT TGATGAATTA TTGTACGAAT TGTTTTGTCC | 2400 |
| 5  | TGATTGTTGA CCACCGAATC CTTGACCGTA ATCTTGGAAT TCATTTTGTT GACGTTGGCC | 2460 |
|    | ACCATTTTGT TGCGCATTTT TAGGTTCAAG GAATTGAACG CTATCACACA CAACTTCAGT | 2520 |
|    | AACAAACACA CGACGACCTT CTTGATTTTC ATAATTACGG GATTGTAAGC GACCATCTAC | 2580 |
| 10 | ACCAGCTAAA CTACCTTTAG ATAAATAGTT ATTTACATTA TCTGCTTGTC TTCTAAAAAC | 2640 |
|    | AACACAGTTA ATAAAATctG ctTCGCGCTC CCCTTGAGCA TTCGTGAACG TACGATTTAC | 2700 |
|    | TGCAAGAGTG AATGtCGCTA CACTCACACC TGAGGGAGTG GTTCTGTATT CCGGATCTTT | 2760 |
| 15 | CGTTAAACGA CCTACTAATA CAACTCTATT TAGCATTTAA ACGCCCCCTC TAATTATTAC | 2820 |
|    | TTGTCTTCGT CTTACGAAT AACCATGTAA CGAATGATAT CGTCACTGAT TTTAGCTAGA  | 2880 |
| 20 | CGTTGGAATT CGTCAGTAGC TTTGTTGTTA TCAGATTTAA CACGTACGAT GTTGTAGAAG | 2940 |
|    | CCATCTTTGA AATCATTGAT TTCATAAGCT AGGCGACGTT TACCCAGTC TTTTGCTTCT  | 3000 |
|    | AAAACCTCTG CACCTTCAGT AGCTAAGATA CCGTTGAAAC GTTCAACTAA CGCTTTTTTA | 3060 |
| 25 | GCATCTTCCT CAATGTTTGG GCGTACGATG TACATAACTT CATATGTTCT CATTTTATAT | 3120 |
|    | TTGCACCTCC TTGTGGTCTA TACGGCTTAT CAATCTTAA ACAGATAAGC AAGGaATAAT  | 3180 |
|    | TTTCATTACT CACAATAAAG AATTaTATCA TGCGCCATTA CTTTTTACAA TaATAATTcA | 3240 |
| 30 | AACTACTCTT CATATCATTT TTGATATtAA TTCATTTGaA ACTTTChATG ATATTTTnAA | 3300 |
|    | AAATACACTT CACAAAAGCG AACATATGTn CTATAAnAGT TGTGAGGTGG TAAGGAATGA | 3360 |
|    | ATTTA   | 3365 |

## (2) INFORMATION FOR SEQ ID NO: 247:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1032 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 247:

|    |   |     |
|----|---|-----|
| 45 | GTAAAAAGTA ATTGGTGGTA TTGATGATGA TTTTACAGCC AATGTTATGC ATCCAAATCA | 60  |
|    | ATATCGAATT CGATATTCGT CTCAGAAACA GGACCTTAAT GAAGATATGA CAGTTTTTGA | 120 |
| 50 | TGCAGTATTA AGTTCTGATA CAACAACCTT ACGCATCATC AAGCAATATG AGCAGGCAGT | 180 |
|    | ACAAGCTTAT GCGGATGACC AAAGTGATAA ATTGTTCAAG CGAATGATGG ATGCGCAAGA | 240 |

ACTAGGTATA CATGATACTA CTAAATACAT TAAAGAATTA TCCGGCGGAC AACAAAAACG 360  
 TGTGTACTT GCTAAACAT TAATAGAACA ACCAGATTTA TTGTTATTAG ATGAACCTAC 420  
 5 GAACCATTTA GACTTCGAAT CAATCAGCTG GTTGATCAAT TATGTGAAGC AATATCCTCA 480  
 TACTGTTTTA TTCGTAACCC ATGATCGATA TTTTTTAAAT GAAGTTTCCA CTAGAATTAT 540  
 TGAACTAAAC AGAGGTAAGT TAGCGTCATA TCCTGGTAAC TATGAATCTT ATATTGAAAT 600  
 10 GCGCGCTGAA AGAGAAGTAA CACTTCAAAA GCAACAACAA AAGCAACGAG CTTTATATAA 660  
 GGAAGAACTT GCTTGGATGA GGGCTGGgAG CTaaggCTCG TACTACAAAG cAACAAGCTA 720  
 GAATTAATCG ATTTAATGAC CTAGAmAATG AAGTTaACCA GCAATATAAA GACGATAAAG 780  
 15 GTGAATTGAA TCTTGCTTAT TCaAGATTAG GTAAGCAAGT GTTCGAATTA GAAGACTTAT 840  
 CAAAGGCTAT TAATGATAAA GTATTATTG AACATCTGAC GGAAATTATT CAAAAmGGTG 900  
 20 AGCGTATTGG TGTGTTGGG CCAAATGGAG CTGGTAAAC AACACTCTTA AATATTTTGA 960  
 GTGGAGAAGA CCAACAATTC GAAGGTAAAT TGAAGACTGG GCAGACGGTT AAAGTAGCTT 1020  
 ATTTAAGCA AA 1032

(2) INFORMATION FOR SEQ ID NO: 248:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 852 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 248:

35 TGTGATTAAAC GAAGCTTATT TTCGTACACC TTCAACAACT GATTACAACG GCGTTTATCA 60  
 AGGTATTAT ATTGATTTTG AAGCAAAGGA AACTAAAAAC AAGACGTCCT TTCCTTTAAA 120  
 TAATATTCAT GACCATCAAG TCGAACATAT GAAAAATGCA TATCAACAAA AAGGTATTGT 180  
 40 GTTTTAAATG ATTCGTTTTA AAACGCTAGA TGAAGTTTAT CTTTACCCT ATTCAAAATT 240  
 CGAAGTATTT TGGAAGAGAT ATAAAGATAA TATTA AAAAG TCTATAACAG TTGATGAAAT 300  
 45 ACGAAAAAAT GGTTACCATA TTCCTTATCA GTATCAACCA AGATTAGACT ATCTAAAAGC 360  
 AGTTGATAAG TTGATATTAG ATGAAAGTGA GGACCGCGTA TGACGGAAAA CAAAGGATCT 420  
 TCTCAGCCTA AGAAAAACGG TAATAATGGT GGGAAATCCA ACTCAAAAAA GAATAGAAAT 480  
 50 GTGAAGAGAA CGATTATTAA GATTATTGGC TTCATGATTA TTGCATTTTT CGTTGTTCTT 540  
 TTACTAGGTA TCTTATTGTT TGCTTATTAT GCTTGAAAG CACCTGCTTT TACCGAAGCT 600

TTAGATAATG GCCAAAGACA TGAGCATGTA AATTTAAAAG ACGTGCCGAA ATCAATGAAA 720  
 GACGCAGTAC TTGCAACTGA AGACAATCGT TTCTACGAAC ATGGCGCACT TGATTATAAA 780  
 5 CGTTTATTCG GTGCAATTGG TAAGAACTTG ACTGGTGGAT TTGGkTctGA AGGtGCCTCA 840  
 ACATTAACAC AA 852

## (2) INFORMATION FOR SEQ ID NO: 249:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5804 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 249:

CACTTTTTTC ATTAAAAATC TCATATTTAT ACACTGAACG TAATCTCGAA TATTTTTTCAA 60  
 CCCAAGTTTT AACTTTAACT TTTTCTGGAT AAAAAATAGA CTTTTTATAA TTGACATTGA 120  
 GGTCAGTCAC AGGTGAAATG ATTCTTGTT TTTCCATATC AGCATAACTA AAACCTAACT 180  
 25 TCGATATATA ATCCAACCGC GCAACTTCAA ACCAAGTTGC ATAATCCCCG TGATAAATTA 240  
 CACCCATCTT ATCAGTTTCA GCATAACGCG CTTCTATTTT TGTAATACTA TATATCATTT 300  
 TAAGCCTTCT TTCAGTTTAA CTTTATATCT CATTCTAACA TAAAATACAA GAAGAGGCCG 360  
 30 GCCAAGAACA CAAAGGkTTT GAACCGACCT ATTATATCAT AAaGTTTATA GAAGTATTTT 420  
 TGAGCACTAT CAAAGTGCCT CAAATACCGA TTAAATTTT ACTGTGATAT CTATTTTTTA 480  
 TTGCGCTAAT TTATTTCTTA AAACCATTG TAAATTTCCA CCGTGACGAT AGTAATCCAT 540  
 35 TTCAACAAGT GAGTCAAAAC GAACCATAGC GTCAAATTCT ACCAAATCAC CATCTTGCTT 600  
 CTTAGCAGTA ACTTTGACGT AGtCATGTGG TTGAACATTT TCATCAATAT TAACAGrAAT 660  
 TTCTTCTGTA CCATCTAGAC CAAGAGAATC AGCTGATTCA CCTTTTTTAA ACTCTAATGG 720  
 40 TAATACACCC ATCATAACTA AATTTGAACG ATGGATACGT TCATAACTTT GTGCAATAAC 780  
 TGTTTTAACA CCTAATAAGT TTGTACCTTT TGCTGCCAG TCACGAGATG AACCCTAACC 840  
 45 ATAATCGTTA CCAGCTAATA CAACTAAACC TGTACCATCT TCTTTATATT TCATTGCAGC 900  
 ATCAAAGATA GGCATTACTT CATTTGTTGG CCAATAAGTT GTAAAACCAC CTTCAGTACC 960  
 TGGCGCTAAT TGGTTTTTAA TACGTATATT AGCAAACGTA CCTCGAACCA TTAATTTCGTG 1020  
 50 ATTACCACGT CTTGAACCAT ATGAATTAAA TTCACGAATA GGCACTTGAT GATCTTGTA 1080  
 ATATTTACCA GCTGGCGTAT CTTTACCAAT TGCACCTGCT GGAGAGATGT GGTCAGTTGT 1140

|    |  |      |
|----|--|------|
|    | TTCTTTAGAT AATCCTTGA AGAATGATGG ATTTTGAATG TATGTTGAAT TAGGATCAAA   | 1260 |
|    | GTCATATAGA GGTTGATCAG TTACATCAAT CTCATTCCAT AATTCGTTGT TATTGTATAC  | 1320 |
| 5  | GTTATTATAT TCTTCAATAA ATAATTCAGG TGTTACAACA CTATCAACGG TATCTGAAAC  | 1380 |
|    | TTCTTTAATT GATGGCCAAA TATCTTTCAA ATATACATCT TCACCGTCAT TACCTTTACC  | 1440 |
|    | AATAGGTTCA TTTTGTAAT CAATATCAAC CGTTCCAGCT AATGCATAAG CAACAATAA    | 1500 |
| 10 | CTGTGGTGAA GCTAGGTAAT TGGCTTTAAC AAGAGGATGG ATACGACCTT CAAAGTTACG  | 1560 |
|    | GTTACCAGAT AATACAGATG TCACTAATAG GTCCTCATCA GCAATCGCTT TTTCAATTTT  | 1620 |
| 15 | TGTAATAAAA GGACCTGAAT TACCGATACA AGTTGTACAT CCATAACCAA CCAAGTTGAA  | 1680 |
|    | GCCTAAATCA TCTAAATAAG GTTGTAAGCC AGCATCTCTT AAATATCCGG TAACAACCTT  | 1740 |
|    | TGATCCTGGT GCTAGAGAAG TTTTAACGTA TTCAGGAACT TTCAAGCCTT TTTCAACTGC  | 1800 |
| 20 | TTTTTTAGCA ACTAAACCTG CACCTAACAT TACATAAGGG TTAGATGTAT TTGTACATGA  | 1860 |
|    | TGTAATTGCT GCTATTGCAA TATCACCTGT TTTCAATTGA GCTTTTGATC CATCTTTAAA  | 1920 |
|    | GTTAATTTCA GCTTTCTTAT CAAATTCAT TTTATCTAAA CCGTGTCTT GGTGCTGCTG    | 1980 |
| 25 | TGGAGCTGTT ACAGAAATTT CAAATGATGA TTTTATATCA CTTAAGAAAA TTAAATCTTG  | 2040 |
|    | AGGACGTTTT GGTCTGAAA GCGATGCTT AACTGTTGAT AAATCCAATT CGATAACATC    | 2100 |
|    | TGTATAATTA GGATCTTCTT TCTCAACATC AAAGAACATA TGGTTTTGTT TCAAATATTC  | 2160 |
| 30 | TTTTACTAGC GCGATATGTT CGTCTGATCT ACCAGTTAAC TTCATATATT TAAGAGATT   | 2220 |
|    | ATCATCAACT GGGAAGAATC CGCAAGTTGC TCCATACTCT GGTGCCATGT TTGCAATTGT  | 2280 |
|    | AGCACGGTCT GCTAGTGGTA AATGTTGTAC ACCTGGACCA AAGAACTCCA CAAATTTACC  | 2340 |
| 35 | AACAACACCT TTTTACGTA GCTCTTGAGT TACTCTTAAC GCTAAATCAG TTGCTGTTGC   | 2400 |
|    | GCCTTGTTGGT AATGAATTTA CTAGTCGTAC ACCAATAACC TCTGGAATTG GGAAATAAGA | 2460 |
| 40 | AGGTTGTCCA AGCATTCAG CTTCAGCTT AATACCACCA ACACCCCATC CTAGTACGCC    | 2520 |
|    | AATACCATTT ATCATTTGTTG TATGTGAATC AGTACCAACT AATGTATCTG GAAATGCAGT | 2580 |
|    | TTTTTCACCA TCTACATCAC GAACATGTAC AACACTTGCT AAATATTCTA AGTTAACTTG  | 2640 |
| 45 | GTGAACTATT CCAGTTGCAG GAGGAACTGC ATTGTAATTA TCAAATGCTT TCGTTGCCCA  | 2700 |
|    | ATTTAAAAAC TGATAACGTT CATAGTTACG TTCAAATTCT AATTTTATAT TACGTTCAAG  | 2760 |
|    | AGCTTCTGGA TTTGCATAGC TATCCACTTG AACTGAGTGG TCAATAACTA AATCCACCGG  | 2820 |
| 50 | TACTTCTGGA TTAATTTTAG TAATATCTCC CCCAACGTCA TCCATTGCTT TACGTAAAGA  | 2880 |
|    | AGCTAAATCA ACTACGGCTG GTACACCTGT GAAATCTTGT AAAATAACAC GAGAAGGTTT  | 2940 |

|    |             |            |            |            |            |             |      |
|----|-------------|------------|------------|------------|------------|-------------|------|
|    | GTCTGTAATT  | ACAAAATCAT | CTTCTTGACG | AAGTAAAGAT | TCTAACAAAA | CACGAATTGA  | 3060 |
|    | ATAAGGTAAA  | TTGGAAACTT | TAGTAATACC | TTGCTCTTCT | ACAGCTTTTA | AATCATAGTA  | 3120 |
| 5  | AGTATAACTT  | TGGCCATTCA | AGTCAAAATG | TTTTTTTGAT | TGCTCTTTAA | AATTTGCAGC  | 3180 |
|    | CATTTAATGA  | TCCCCCTTGA | TACATTTTTA | TATTTATATG | CCTTGATTAA | ATTGTATTAT  | 3240 |
|    | TATATTTATT  | GATAAACAAC | TCATCATGCT | TAGAAAACGC | TTAATTTAGG | TTTTGACTTT  | 3300 |
| 10 | TTAATCAGAG  | TATATAAGCA | AAACTTATCA | TACAGGTAAG | GTGTAATAAG | TATTTTTTAT  | 3360 |
|    | TAATTGAGAA  | TAATTATCAA | TTTCGCGAAT | GATTCAATTC | AATTTTTTAA | CGTATTATTT  | 3420 |
| 15 | CATTGAGCAG  | AAAGAAAATT | ATGGCACCAA | ACTTTAATAT | TTTTTTCAAT | GTCATTCTTT  | 3480 |
|    | TGATGGGAGT  | GGGACAGAAA | TGATATTTTC | GCAAAATTTA | TTTCGTCGTC | CCACCCCAAC  | 3540 |
|    | TTGCATTGTC  | TGTAGAAATT | GGGAATCCAA | TTTCTCTTTG | TTGGGGCCCA | TCCCCAACTT  | 3600 |
| 20 | GCACATTATT  | GTAAGCTGAC | TTTTCGTCAG | CTTCTGTGTT | GGGGCCCTCA | CCCCAACTCG  | 3660 |
|    | CATTGCCTGT  | AGAATTTCTT | TTCGAAATTC | TCTGTGTTGG | GGCCCCTGAC | TAGAATTGAA  | 3720 |
|    | AAAAGCTTGT  | TACAAGCGCA | TTTTCGTTCA | GTCAACTACT | GCCAATATAA | CTTCGTAGAG  | 3780 |
| 25 | CATAGAATAT  | TGATTTATGT | CCCAGCCTGA | GTTAATTTTC | TATAAAAGTA | TATTTAATTT  | 3840 |
|    | GCGTTTATAC  | CGTCAAACCT | CACTTTAGCT | TTGTCAAACC | CCTTTCTATT | AAGTTTTTCAG | 3900 |
|    | AAATAAACCT  | ATCTTAAAT  | ATAAAAAAAT | CGAGAATTCG | TAGTTTAATA | ACGAAATTCT  | 3960 |
| 30 | CGTTCTTATC  | CTTTTGAATA | TACTCAATTT | TCCACAAAAA | CAACAAGTA  | GTATATCTGT  | 4020 |
|    | TCTAGCTACT  | AGAATGACAT | ACTACTTGTT | ATTAAAATAC | TTAACTAAAC | TTTATTAGTT  | 4080 |
|    | ATCTTTTTTC  | TCTATATTC  | TACGTGACTG | ACGCTTTTCA | AGAATGTCAG | ATTCATAATC  | 4140 |
| 35 | TTCTTGTTGA  | CTCTTGATAT | ATTCTTGTA  | GCGATGTTTA | TTCGGAGTCA | ATGTAAACC   | 4200 |
|    | TAGGAATTTA  | CGTTCCTGGT | TCGCATCCTT | GTAGAAACTT | ACCATCATGA | GTATGACGAC  | 4260 |
|    | AAAGGAGAAT  | GGGAATGCAC | TTATAATTGC | AGCACTTTGA | ATCGCATTTA | AAGCTTCAGC  | 4320 |
| 40 | GCCGTTACCG  | CCACCAGCTA | ATAAAAGTAC | AAATGCTATT | AAGGCCTGTG | AAATTCCCCA  | 4380 |
|    | AACAACTTTT  | ACCATACTAG | ATGGATTTAA | TGAACCAAAT | GTTGTTTGCA | TTCCCTAATAC | 4440 |
| 45 | AAATGTTGCT  | GAGTCAGCAG | ATGTAATAAA | GAATGATGCA | ATTAATAATA | ATGCAATCAA  | 4500 |
|    | CGATAAAACA  | ATGCCAAATG | GCACATGATT | AAACACTCCA | AATAGCTGTG | TTTCAGGAGT  | 4560 |
|    | CATATCAAAA  | ATTTCTTTGT | GTTTCTTACC | TGTCTCGATG | CCTAATACAC | CAAAGACACT  | 4620 |
| 50 | AAACCAAAACA | AAACTAACAA | TTGCTGGAAC | TAGCAAGACA | CCAGAAATGA | ACTCTCTAAT  | 4680 |
|    | TGAACGTCCT  | TTTGAAACTC | GTGCAATAAA | CACTCCAACG | AATGGACTCC | AACTTAACCA  | 4740 |

|    |            |            |             |            |            |            |      |
|----|------------|------------|-------------|------------|------------|------------|------|
|    | TGCTGTATCA | AACTATTAA  | ACAAGAATGT  | GTTTAGTAAA | CTACCCGTAG | AGCTAGTTAA | 4860 |
|    | CATATTTAAA | ATAAGAACAG | TTGGTCCAAC  | AATTAAAGCA | GCTACCATTA | AAATAGTACC | 4920 |
| 5  | TAAACCAATG | TTCAAGTTAC | TTAAGTATTG  | AATACCTTTA | CTTAATCCAG | ACCATGCACT | 4980 |
|    | TGCTATAAAT | AAGATAGTAA | CAACAATGAT  | GATAATCGCT | TGTACAAACG | TATTGTTTGG | 5040 |
|    | AACATTGAAC | AAGTAATGTA | AACCACCATT  | AATTTGTAGA | GCACCCATAC | CTAACGAAAC | 5100 |
| 10 | GGCTACCCCA | ACGATTGTCG | CAAATACAGA  | TAAAACGTCA | ATAAAAATCC | CAATAGGACC | 5160 |
|    | TTCTACTTTA | TCACCTAAAA | GAGGACGTAA  | AGTTCTAGAT | AATAAACCTG | GTTACCTTTT | 5220 |
|    | ACGGAATTGC | GAATATGCCA | ACGTAACGCA  | ACAACACCAT | AAACAGCCCA | AGCATGGAAT | 5280 |
| 15 | CCCCAATGGA | AAAATGTTGA | ACGTAGAGCT  | TCAGTATAAG | CTTCAGTAGT | TTTGGGATCT | 5340 |
|    | GCTGTAGGTG | GCGTAGCAAA | GTGCGCCATC  | GGTTCAGCTG | CACCATAAAA | CACCAAACCT | 5400 |
| 20 | ATCCCCATAC | CAGCACTAAA | CAACATAGCA  | AACCATGAAA | TTGTATTAAA | CTCAGGTTTG | 5460 |
|    | TCATTTGGTT | TACCTAGTTT | AAGTTTTTCCA | ATAGGACTAA | AAATAAGGAA | TATACAGAAG | 5520 |
|    | AACACGATAA | TCGTAGTAAG | AATAAGATAA  | TACCAACCTA | ACTTTTCTGT | AATCCACATT | 5580 |
| 25 | TTAATATTAT | TGGTAACATA | GTTGAATTGT  | TCAGGTAAAA | ATGCACCAAG | TAATACGACT | 5640 |
|    | ATAGCAACAA | CAATTGCACT | ATAGATGAAG  | ACTGGTGAAT | ACTTCTTTCC | ATTTGGATTC | 5700 |
|    | TCTGGTGAAG | AAGAATTCAT | AATTAATTAC  | TCCCTTCAAT | TCTATATTTA | ATTTTATGTA | 5760 |
| 30 | GTAGAATAAA | AATATTATCT | AAACATTTTA  | TTCAATAACT | CACG       |            | 5804 |

## (2) INFORMATION FOR SEQ ID NO: 250:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 400 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 250:

|    |            |            |            |            |            |            |     |
|----|------------|------------|------------|------------|------------|------------|-----|
|    | ACCCGCGAAT | ATGGTCCATC | CTATCGATTT | ATTTTAACT  | GGTTTGACAA | TATTTAATTT | 60  |
|    | TTCATAATCA | TTCTTAGTGA | TTTTGACATA | TGTTTTCGGT | ATGAGCCAGT | TAATAAATGG | 120 |
| 45 | AAAGAAGAAG | ACAATCCAAT | TACTTGCCAA | ATCaATCATT | AAATATTCAC | TATCGTATTT | 180 |
|    | GATTATTCGA | TATTTAGGGT | TTTTATTAAT | AACTTTAGAT | TCGCAAAGCA | ATGTCTCCAC | 240 |
| 50 | ATCCCTTTAA | TTTTATGTGT | AATACATTTT | TCGATACTTC | AAAAGACATT | CAAATACTAT | 300 |
|    | CAAGTTACTG | TCATCAAAGG | TTTTATTAAC | TGATATTtTC | ATATTTTAAa | TCTGAATTTA | 360 |

## (2) INFORMATION FOR SEQ ID NO: 251:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 964 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 251:

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CCAGGGTGCG GAAAGCTTTA AAATTTGGAC TAATAAAGAT GCTGATATTA ATTCTATGAA      60
AACAGCAGTT TTACAACAAT TAAAAGGAGA ATAACATATG CTTACTGGCA AACAAAAAAG      120
ATACTTAAGA AGTTTAGCAC ACAATATTGA TCCGATTTTT CAAATTGGAA AAGGCGGTAT      180
CAACGAAAAT ATGATTAAAC AAATAGATGA TACGTTAGAA AACAGAGAAT TGATTAAAGT      240
ACATGTACTA CAAAATAACT TTGATGATAA AAAAGAATTA GCTGAAACAT TAAGCGAAGC      300
TACTCATAGT GAATTAGTGC AAGTGATTGG ATCTATGATA GTGATTTATA GAGAATCTAA      360
AGATAATAAA GAAATTGAAT TGCCATAATA ATGAAAAAGA TATyACTTTA CGGCGGTCAG      420
TTTAACCCTA TCCATACTGC ACATATGATA GTAGCTAGCG AAGTATTTCA TGAATTACAG      480
CCAGATGAAT TTTATTTTTT ACCTAGTTTT ATGTCTCCAT TGAAAAAGCA CCATGATTTT      540
ATAGACGTTT AGCACAGATT AACAATGATA CAGATGATTA TCGACGAGCT TGGTTTTGGA      600
GATATTTGTG ACGATGAAAT TAAACGTGGT GGTCAAAGTT ATACCTATGA CACGATCAAG      660
GCATTCAAGG AGCAACACAA AGACAGTGAG TTGTACTTTG TTATTGGGAC GGATCAGTAT      720
AACCAACTAG AGAAATGGTA TCAAATTGAA TACTTAAAAG AAATGGTTAC TTTTGTAGTT      780
GTAAATCGAG AAAAAATAG TCAAATGTT GAAAATGCTA TGATTGCAAT TCAGATACCT      840
AGGCTAGATA TAAGTTCGAC AATGATTCGA CAAAGAGTTA GTGAAGGGAA ATCTATCCAA      900
GTTCTTGTTT CTAAATCCGT TGAAAACTAT ATTAAGGGGG AAGGATTATA TGAACATTGA      960
AAAA

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## (2) INFORMATION FOR SEQ ID NO: 252:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1193 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 252:

TTGTCATGAA ATAAATGGGA TGAATATCAC GACTAGAAGT AATGTTACGA ACAGGAGCGT 120  
 ATAAACTAGA GACGCTAAAT TCGACATAGT ATGTnGCTCA ATTATGGCTG ATGATGAATT 180  
 5 TAAAGTATGT GCGTTGGAAC TGTCGGATTT TTGTTTCATAA TGTTTTGCAT ATTGCGCCAT 240  
 GATGAATAGT GTAAAAATAA ATAAAACAAT AAGAGATATA ATGCCCATAA TCAAAAGTAT 300  
 TTGTTTAGAG CCTTTCATTA TTTCACATCC TTTCTAAAAT ATATTTGTAA CTAAATTTAA 360  
 10 AATAGTTATT TTTGTAATTC TAAACCTTTT TCATCGCGAA AACAATTAAA TAGGTCGCGG 420  
 TATTAATTAT TATATTATTA CCGCTTAATA TGAAAAATAC ATGAAaATTA ATTTTCTAAT 480  
 ATACTTTTGA AAAATTATTA CAAATTAGCC CCTTCAAAAC GCGAAAACAT AAGGATTCTA 540  
 15 GTTTCAAAAG GGCTGATAAG CATAAAATGA AATGTAATAT TTCGATGTAT AAAATTTTAA 600  
 ATTAGCTAAA AATCATCGCA TTAATTTTTT GAGCTACATC ATCAAAATTC GGACATTTTA 660  
 20 ACGACACATA TAATTTAATT TTAGGTTTCA TACCAGAAGG ACGTAAAGCG ATAAATCCTT 720  
 CGTCAAATAA GACACGAATA ACATTTGATT TAGGAGAATT AATCTGCGAC GTTGTATCTT 780  
 TATCCAAATG ATAAACCTCG CTAGTTAAAT AATCTTCAAT TGCTTTCAT TTAGATCCTT 840  
 25 GAATCTCTTG CCGTGGATTT GAACGGAATT TGGTCATTAT TGCATTAATT TTCTTTTTCC 900  
 CTTCAAATCC TTCTAGCGTA TGCGgAATAA TGTATCCTCA TGTCTACCAA CAGTTTGATA 960  
 AATCTGTTCT AATTCATCTT TCAATGTTTT GCCATATAAT TTAACTCAG AAGCGTATTT 1020  
 30 TATAATGAGT GGCACAATTT GTACGGCATC TTTATCACGT ACAAAGGCT CTGATAGAAA 1080  
 ACCGTAATC TCTTCAAATG CGAAATCAT ATTTGATGAT CATCCAGTTG TCTTATTTCC 1140  
 TGAGCAATAA ATTTAAGCCC GTCAGCACCT CTTTGGTATT CAACATTATT ATA 1193

(2) INFORMATION FOR SEQ ID NO: 253:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1098 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 253:

TATCAGGATG ATTATGnCGG GGTTTTATTA AGTCTGAGCG TATATnCCCTT TTATTCTCCT 60  
 AAATGGTTTG GAATTCAAGG AGAAGACGAT GAAATGGTAT CCAAAAACCA AnGAATATAT 120  
 50 nGCATTAAGT CTGAGGATGA TAGTGCGGTG GCAATTCGTT CATTAATTTT GCATAAAGAT 180  
 GAACCTATGT ATTTAAAAAA ACGTACATGT GTACCTACTT TGTTAATTAA TGGGGAACAT 240

AAAAAAATCT TCGAACATTC AGGACATGCA CCGCATATTG AAGAACCAGA AGCATTATG 360  
 AATTATTATT TAAAATTTTT AAAAAGCGTA TCATAATATG TGATATATAA ACCTAGGGCA 420  
 5 TAAAGTCCTT AGGCAATGTG AAAAAGCTGA TTACTATTCA TTATTGATA GAAATCAGCT 480  
 TTTTTTGAAA TGTATTTGAT ATATACTGCT CGTTATGCGG CTATCTTCCT TATATTAAGT 540  
 GCCATTAGTG CAAAACCTCT TAACAATTAG GTAAAAAGAG CATAAAAAAA GGAAGTTTAA 600  
 10 TAGAATGTAT CATCTATCAA ACTTCACCAA ATTGCGCTAA ACAAATTAT AGTTCAATTT 660  
 CGTTGTTTGC TTCAGTGATT CGTTTATTTA CTCGACTCAA TAATGATTCG ATTTTTTTAC 720  
 GTTGTTGTGC ATTAACAAGA ATTAATACAG TTCTTTCATC ATGCTCATTG CGTTTTTTAT 780  
 15 CGAAGTAATC TTCTTGAGAT AAAATTTTAA CTGCTTTAAC AACTTGTTGGT TGTTTGTAGT 840  
 TTAAATGATT AATAATATCT TTAAGATAGT ATTCTTTCTC TTTGTTTTCG CTGATGTATG 900  
 TCAATACAGC GAATTCCTCA AAGCTAATTG AATAATCCTT TTTAATTAAA CTTTTTAATT 960  
 20 TGTCAGCATA AGTGACCATT GATAACAAC CAAAGCAATC ATTGATTTTT GTAATTGCCA 1020  
 TGTTTAAAC CTCCCTATTT GATGCATCTT GCTCGATACA TTTGCCCCGA TAATATATG 1080  
 25 TATCTAATCT TTATGnAT 1098

(2) INFORMATION FOR SEQ ID NO: 254:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2881 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 254:

CCAGGTAAAA TTGTGCAATC ATTTGACGCA TTAATGGACG CCTTGGACAA TGAAGATTAT 60  
 GAAGGAGAAA AAGTCATTCC ATTCCTAGAT AAACATTTTA AATATCAAGA TGGCCGATCA 120  
 40 AGTGAGCGTT TAGTCAGAAA TTTATTTGGT AGCTAAGTTT ATATAGTAGT CAAAGTGGGA 180  
 GAGGTATAAT GATGAAATTT TCAGTAATAG TTCCAACATr CAATTCAGAA AAGTATATAA 240  
 CAGAATTACT TAATAGCCTT GCGAAACAAG ATTTTCCGAA AACTGAATTT GAAGTGGTTG 300  
 45 TAGTTGATGA CTGTTCAACA GATCAAACGT TACAAATAGT TGAAAAGTAT CGCAATAAAT 360  
 TGAACCTGAA AGTAAGTCAA CTCGAAACAA ATTCTGGTGG TCCAGGTAAA CCTAGAAATG 420  
 KGGCGTTAAA ACAAGCAGAA GGTGAATTTG TATTATTTGT GGAATCCGAT GACTATATAA 480  
 50 ACAAAGAGAC TTAAAGGAT GCAGCAGCAT TTATTGATGA ACATCACTCA GATGTCTTAT 540

|    |   |      |
|----|---|------|
|    | CACCTGAAGT TACTTTGTGA AATTCAAGAA TTATCTATAC TTAAAGCCCG ACTAAAATCT | 660  |
|    | ATAGAACAGC ATTACTAAAA GATAATGACA TTTATTTTCC AGAAGAATTA AAGAGTGCAG | 720  |
| 5  | AAGATCAATT ATTTACAATG AAAGCATATT TAAATGCAAA TCGAATCAGT GTGTAAAGTG | 780  |
|    | ATAAAGCGTA TTATTATGCT ACAAAGCGTG AAGGTGAACA TATGAGTAGT GCGTATGTTT | 840  |
|    | CACCTGAAGA CTTTTATGAA GTCATGAGAT TGATTGCTGT AGAAATATTA AATGCAGATT | 900  |
| 10 | TAGAAGAAGC CCATAAAAAT CAAATCTTAG CAGAATTTTT AAATCGTCAT TTTAGTTTTT | 960  |
|    | CTCGTACGAA TGGCTTCTCA CTTAAAGTTA AACTAGAAGA TCAACCACAA TGGATTAATG | 1020 |
|    | CTCTAGGAGA CTTTATACAA GCAGTTCCAG AACGTGTAGA TGCATTGGTG ATGAGTAAAT | 1080 |
| 15 | TACGACCATT GTTGCACTAC GCGAGAGCGA AAGATATAGA CAACTATAGA ACTGTGGAAG | 1140 |
|    | AAAGTTACCG TCAAGGTCAA TACTACCGTT TTGATATTGT AGATGGTAAA TTAAACATTC | 1200 |
| 20 | AATTCAATGA AGGCGAACCA TACTTTAAAG GCATTGATAT CGCTAAGCCA AAAGTGAAAA | 1260 |
|    | TGACAGCATT TAAATTTGAT AATCATAAAA TTGTTACAGA GCTAACGTTA AATGAATTTA | 1320 |
|    | TGATTGGCGA AGGACATTAT GATGTCAGAC TTAAATTACA TTCACGAAAC AAGAAGCACA | 1380 |
| 25 | CAATGTATGT ACCTTTAAGT GTCAATGCGA ATAAACAATA TCGTTTTAAC ATTATGTTAG | 1440 |
|    | AAGATATTAA AGCGTATTTA CCTAAAGAAA AAATTTGGGA TGTTTTCTTA GAAGTCCAAA | 1500 |
|    | TAGGTACGGA AGTATTTGAA GTGCGTGTG GTAATCAACG TAATAAATAT GCATATACTG  | 1560 |
| 30 | CAGAAACAAG TGCATTAATT CATTTGAATA ATGATTTTTA TAGATTAACA CCGTATTTCA | 1620 |
|    | CAAAAGACTT TAATAACATT TCGTTATACT TTACAGCTAT TACATTAACG GATTCAATCT | 1680 |
|    | CATTGAAGTT AAAAGGTAAA AACAAAATCA TTTTAACTGG TCTGGATCGT GGTATGTAT  | 1740 |
| 35 | TTGAAGAAGG TATGGCTAGT GTCGTACTAA AAGACGACAT GGTGATGGGA ATGTTAAGCC | 1800 |
|    | AAACATCAGA AAACGAAGTG CnAAATCTTA CTTAGCAAAG ATATTAAAAA GCGAGACTTC | 1860 |
|    | AAAAATATTG TTAAGTTAAA CACTGCACAT ATCACTTATC CACTAAATAA ATAATAAATG | 1920 |
| 40 | CCCTCAAATC ATTGTGAGCC AACATGATTT GAGGGCTTTA TTTTGCTGTT TATGACATGA | 1980 |
|    | TTATGACATT TCCCTGATTT TCATTTTCAT ATACATTAAA TTGTATACAC TGGAAATGAG | 2040 |
| 45 | GAGGTTATCT ATAATGATAA ATAAAAATGA CATAGTAGCA GATGTAGTAA CTGATTATCC | 2100 |
|    | GAAAGCAGCG GATATTTTTA GAAGTGTTGG AATAGATTTT TGTTGTGGCG GACAAGTAAG | 2160 |
|    | TATAGAAGCA GCAGCCTTAG AAAAGAAAAA TGTAGATTTG AACGAATTAT TACAGCGTCT | 2220 |
| 50 | CAACGACGTT GAACAAACGA ATACACCAGG TTCGTTAAAT CCTAAATTTT TAAATGTTTC | 2280 |
|    | ATCACTTATT CAATATATTC AATCAGCATA TCATGAACCT CTAAGAGAAG AATTTAAAAA | 2340 |

|    |   |      |
|----|---|------|
|    | TGAGTTAAAA GAAACATACG ATACATTTAA AAATGGCATG TTAGAGCATA TGCAAAAAGA | 2460 |
|    | AGACGATGTC GATTTTCCAA AACTCATTAA ATATGAGCAA GGTGAGGTAG TAGACGATAT | 2520 |
| 5  | TAATACTGTG ATAGATGATT TAGTTTCAGA CCACATTGCA ACGGGAGAAT TGTTAGTAAA | 2580 |
|    | AATGAGCGAA TTAACATCTA GTTATGAACC TCCGATAGAA GCGTGTGGTA CTTGGCGACT | 2640 |
|    | TGTTTATCAG AGATTAAAAG CACTTGAAGT GTTAACACAT GAACACGTAC ATTTAGAGAA | 2700 |
| 10 | TCACGTATTA TTTAAAAAAG TATCATAAAT AACGCGATTA GAACTGTTG GCAAAAATAA  | 2760 |
|    | GTCCAGCAGT TTTTCGCTAT GTATAAAAGT CATAATAGTG ACATAAACAG CATTATTTGA | 2820 |
|    | AAAGAAAT GGTCAACTTA GCATAAAAT TGATATGAAT ATTTAATGGT ATAGATAATT    | 2880 |
| 15 | A   | 2881 |

## (2) INFORMATION FOR SEQ ID NO: 255:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1056 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 255:

|    |   |     |
|----|---|-----|
|    | ACCGTCGAAT ATCGCTGTG ATTTACAATT TGTGTATTAA GATGCTCAAC TAATTGGGT   | 60  |
| 30 | ACATATTCCG AATTAGATT TGCAAGTACA ACAATCCAT AATTTGTTT TGGATTAGT     | 120 |
|    | AAAATAAATG ATGAAAAGTT ATCTAGCGTT CCTGAATGAA AACTAAATG TTCATCATT   | 180 |
|    | TTGGTAAACC AGCCGGAAGC ATATGCATTG GCATTAGGTT CACCAATTGT TGAAGATAAA | 240 |
| 35 | TTTTTATGTG ATTGTTGAAC TAATGATTTG TATTTATCAG GTGGATTAAG TTGGAATTT  | 300 |
|    | ATCGAATGTT CCAAATCTTC AGTTGATGTC ATCATATATG CTGATGGTGT ATCCCAAAGG | 360 |
|    | TTAAATTCAG GTTTAGAGAC GACAGGTGTC GAACCTTGTA ATTCATAGCC AATAGCATCA | 420 |
| 40 | TGTTTTGATT TGTAATTGGT TTGTTTGAAT GATGTATGTG TCATATGCAA AGGCTTGAGC | 480 |
|    | CATGAATTTG TAATATATTT TGTATAGGAT TGCTTCGTAA CGTTTTGGAT AATTAAACCT | 540 |
| 45 | AATAAATCAT AGTTCATATT TGAGTATTCA AATTCTTCTC CGGGCTTATG ATGTAATTCA | 600 |
|    | TCACCCATAA TTGCATGGGT TACATCATTT AAACGATTAT TTTTGCTTGT CACAGAATCT | 660 |
|    | TCGCTTGTA TACTACTAGG TATACCACTT GTTTGAGCCA AAAGTTGCTT AATCGTAATA  | 720 |
| 50 | GTTTCATTTT GACCAATTATA GTTCATTTTA AAATGAGGCA CATGTTTGA TACGGCATCA | 780 |
|    | TTTAAGTTTA ATCGACCTTC TTGAGCTAAT TTTAAAATTG CAAGACCTGT GAAAGCTTTC | 840 |

TGATAACCAT AACCTTTATT TAAAAAACT TTGCCATTTT TTACTIONYATA AATTGATGCT 960  
 CCAGGAATGT GTCCCTTTTG TAAATCATGC TCGATAATTG TATCTATTTG TTGTTGCGAA 1020  
 5 TCATTGGTTA ACCGTGTCTT CGTATTGCTA TTTAAT 1056

(2) INFORMATION FOR SEQ ID NO: 256:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1277 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 256:

ATGCCaCACT TATTGGTGGC AGGATCGACG GGTAGTGGTA AATCTGTTTG TATAAATGGT 60  
 ATTATTACAA GTATTTTATT AAATGCTAAG CCGCATGAAG TTAAACTTAT GTTAATCGAT 120  
 CCGAAAATGG TTGAATAAA TGTTTATAAC GGAATTCCAC ACTTATTAAT TCCGGTTGTT 180  
 ACAAAATCCTC ATAAAGCTGC TCAAGCTTTA GAAAAAATTG TAGCTGAGAT GGAAAGACGT 240  
 TATGATTTAT TCCAACATTC ATCAACTAGA AACATTAAAG GTTATAACGA ATTAATCCGT 300  
 AAGCAAAATC AAGAATTAGA TGAGAAGCAA CCAGAATTAC CTTATATCGT TGTTATTGTA 360  
 GATGAGCTTG CAGATTTAAT GATGGTAGCT GGTAAGAAG TTGAAAATGC GATTCAACGT 420  
 ATTACACAAA TGGCACGTGC AGCAGGTATA CATTTAATTG TAGCGACACA AAGACCTTCT 480  
 GTGGATGTAA TTACAGGTAT CATTAAAAAT AATATTCCAT CTAGAATAGC TTTTGCTGTG 540  
 AGTTCTCAAA CAGATTCAAG AACTATTATT GGTACTGGCG GCGCAGAAAA GtKACTTGGT 600  
 AAAGGTGACA TGTTATACGT TGGAAATGGT GACTCATCAC AAACACGTAT TCAAGGGGCG 660  
 TTTTtAAGTG ACCAAGAGGT GCAAGATGTT GTAAATTATG TAGTAGAACA ACAACAGGCA 720  
 AATTtTGTA AAGAAATGGA ACCAGATGCA CCAGTGGATA AATCGGAAAT GAAAAGTGAA 780  
 GATGCTTTAT ATGaTGAAGC GTATTTGTTT GTTGTtGaAC AACAAAAGGC aAGTACATCA 840  
 TTGTTACAAC GCCAATTTaG AATTGGtTAT AATAGAGCAT CTAGGTTGAT GGATGATTTA 900  
 GAACGCAATC AGGTAATCGG TCCACAAAAA GGAAGCAAGC CTAGACAAGT TTTAATAGAT 960  
 CTTAATAATG ACGAGGTGTA AAAAAATGTC AGAAATGAAT GCGGTATATA ACGTTAAACA 1020  
 ATaCATTTtA AATTTgATTA AGCAAAATAA ATTGGAATAT GGTGACCAAC TTCCAAGTAA 1080  
 TTTATCAATT GCCAGAGAAT TAAATGTAAA AACCAGACGAT GTTTATGAAG CAATTCAGcA 1140  
 TTGATTACTG AACAAATCAT TAAAGATAtT TTGAAGAGGG CACAAGTGTT AAGTCACTGC 1200

GrtTTGAATG CGGAACT

1277

(2) INFORMATION FOR SEQ ID NO: 257:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 3557 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 257:

|    |   |      |
|----|---|------|
|    | TACCGTCGTT TTATGyGTCA AATTTTACAG TAAATTTTGC TTCATCAAAA GAAATAACCT | 60   |
| 15 | TTAACAAGTA TAGTAATTTT ACATTTTACA ATGTTACAAA ATATAATTTT TTATAATTAG | 120  |
|    | TTAAAATCAC TAAAACGCTT TTATACACTA TCAAATCAGC ATTTATAAAA ATATGAACCG | 180  |
| 20 | ATATCCTAAA ATGTTAATAA TATTACAAGA TAATAACArA CCACACAAAG CTACTTATTT | 240  |
|    | TTGATAATAT GGAAATCGTA ATATAAAACn AAAACTTAAT TTACTATATA AATTGTCTTA | 300  |
|    | ATAATTTTTA AAAGTAGTAA AACATAATTT TAAGGAGGAG TCCCTTTGAA AAAATTAGCA | 360  |
| 25 | TTTGCAATAA CAGCAACATC TGGTGCAGCT GCATTTTTAA CGCATCATGA TGCACAAGCT | 420  |
|    | TCTACACAAC ATACAGTACA ATCTGGTGAA TCATTATGGA GTATTGCTCA AAAATACAAC | 480  |
|    | ACTTCAGTAG AGAGTATTAA ACAAATAAC CAATTAGATA ACAACTTGGT ATTCCCTGGT  | 540  |
| 30 | CAAGTTATCT CAGTAGGTGG AAGTGATGCA CAAAATACGT CAAACACTTC TCCACAAGCT | 600  |
|    | GGTTCAGCAT CATCTCATAC TGTACAAGCT GGTGAATCAT TAAATATCAT TGCTAGCAGA | 660  |
|    | TATGGTGTTT CAGTTGATCA ATTAATGGCA GCCAATAACT TACGTGGTTA TTTAATTATG | 720  |
| 35 | CCTAACCAAA CATTACAAAT TCCTAATGGT GGATCAGGTG GTACAACACC AACAGCTACA | 780  |
|    | ACAGGTAGCA ATGGCAATGC ATCATCTTTT AATCACCAAA ATTTATACAC TGCTGGTCAA | 840  |
|    | TGTACATGGT ACGTATTTGA CCGTCGTGCT CAAGCTGGTA GTCCAATTAG CACATATTGG | 900  |
| 40 | TCAGACGCTA AGTATTGGGC TGGTAACGCA GCTAATGATG GTTACCAAGT AAACAACACA | 960  |
|    | CCATCAGTTG GTTCAATTAT GCAAAGCACA CCTGGTCCAT ATGGTCATGT TGCTTATGTT | 1020 |
|    | GAACGTGTCA ATGGTGATGG TAGTATCTTG ATTTCTGAAA TGAATTACAC ATATGGTCCA | 1080 |
| 45 | TACAATATGA ACTACCGTAC AATTCCAGCT TCAGAAGTTT CTAGCTATGC ATTCATCCAT | 1140 |
|    | TAATTAAATA AATTGTACTG ATATATACTA GCAATTCACA TCATGTGAGA TTGCTAGTTT | 1200 |
| 50 | TTTATTTTGT AAAAAAATTT TCATTTTGGT ACAAAAAATT ATCTCACCCT TCCCTATCAT | 1260 |
|    | ACATATTTAT ATTTTGTATG AATGGTAGTT AGGTAAAAAT TAACAACCTA CCTATTTGAT | 1320 |

|    |             |            |            |            |            |            |      |
|----|-------------|------------|------------|------------|------------|------------|------|
|    | ATTTAATTTG  | TTATACCAGT | ATTTTACGCT | TTTTCGTCTA | CATATACAAA | TTTATATTAA | 1440 |
|    | ATAAAGCCCA  | ATACAATTTA | GGTTAATTAA | ACAAGTTGAT | AACTATTTAA | TTATTCCTTC | 1500 |
| 5  | ATTGAAGAAT  | ATAAACTATT | AAATCATTAT | TTTGCTCTTA | CATATATTTT | AATGACCTAA | 1560 |
|    | CTGaTTATGT  | TCCATGGAAT | ACATTTATAA | TATAGCCTCC | TAATTAArAT | GCyTTGTCTT | 1620 |
|    | GGTCATTCTA  | CGTAAATTCT | ATAAAATATG | TTATCTACTT | ACATAAArAn | CTGrACTTCA | 1680 |
| 10 | ATACCACCAT  | ATGTTTGTGA | TACTGAAGTT | CAGTTTAGTT | TTATTTTCAA | TTAGAAAAAT | 1740 |
|    | AAGTTAAGTA  | TATAGAATAG | TAAACCTGCT | AACAATGCTG | AAATAGGTAA | TGTAATCACC | 1800 |
|    | CATGTAATGA  | TCATTGTTG  | CGCagTGCTC | CATTTTACAC | CTTTAGCTCG | GTTAGAAGCA | 1860 |
| 15 | CCAACACCTA  | AGATTGATGA | TGACACAACG | TGAGTTGTTG | ATAATGGGAA | ATGTAGCGAT | 1920 |
|    | GATGCAACAA  | AAATTGTTAA | TGCAGATGAT | AAATCGGCCG | CAGCACCATT | TGCTGGACGT | 1980 |
| 20 | ATTTTCATAA  | TATTACCACC | TACAGTTTTG | ATAATTTTCC | AGCCACCAAT | TGCAGTACCA | 2040 |
|    | AGCCCCATTG  | cTGTCGCACA | GGCAAATTTT | ACCCATAACT | GTGGTTCAAC | ACTGCCATCA | 2100 |
|    | TTCTGTACAT  | TAGCGACAAT | CAATGCCAAC | GTAATAATAC | CCATTGATTT | TTGCGCATCA | 2160 |
| 25 | TTCGTACCGT  | GAGAGAATGA | TTGTAACGCT | GCTGTGAAAA | TTTGGAAAAA | TCTAAAGTTA | 2220 |
|    | CGATTGCTC   | TTGTTAAATT | TGCATTTTTA | AAGATAACTT | TAAAAATTGA | ATACATCAAG | 2280 |
|    | AAACCAACAC  | AAAATGCGAT | AATCGGTGAA | ACGATTAATA | CAATAATAAT | TTTTGTGAAA | 2340 |
| 30 | CCTTGGAAT   | GTAACACTCC | AAATGAGCCT | TCAGATGCGA | TTGCTGCACC | CGCAATTGAA | 2400 |
|    | CCTATAAGTG  | CATGTGAAGA | CGAACTTGGA | ATTCCGTAAA | ACCAAGTAGC | TAAATTCCAA | 2460 |
|    | ATAATAGCCG  | CAAGTATTGC | AGCTAACACA | ACAATAATC  | CATTTTCCAA | TTTAAATGGA | 2520 |
| 35 | TCGACAATGT  | CTTTAGTAAT | GGTGCCTGCA | ACGCCCCGTA | ATGTTAAAGC | ACCTATAAAG | 2580 |
|    | TTCArCACTG  | CTGCCATTAA | AATTGCCGTT | TTAGGgTTAA | CGCTCTAGTA | GATACAGCAG | 2640 |
|    | TAGCTACTGC  | ATTGGcTGTA | TCATGGAaTC | CcATTGATAA | AGTCAAATAT | CAGCGAGAAA | 2700 |
| 40 | ATAACTACAG  | CTATAGTGAC | GATGATTATA | TATGACATAA | ATATATACTC | CCCTTAGCTA | 2760 |
|    | TTTTTCATAA  | TAATAGTTTC | AAAATTATTT | GCTACGATTT | GACATTTATC | AGCGATTTCT | 2820 |
|    | TCCATGCTTT  | CATAAATATC | TTTtATTTTA | ATTAAAGTGA | TTGGATCTGT | TTGCTATTG  | 2880 |
| 45 | AAAAATATGTT | TAATTGACTG | TCTTAAAATA | CCATCACAGT | TTGTTTCAAA | TTCTTTAATA | 2940 |
|    | TTAATTGAAT  | GAATACGCAT | ATGTGATAAT | TTTTTATCGA | CTAATAAGCC | GACAGCAAGT | 3000 |
| 50 | TTCATTTCTG  | CAACTGCTTT | TTGAATGTTA | TCAACAAACT | CAGCCATATA | TTCATCTGTG | 3060 |
|    | TATTCGATTG  | AATACATrTC | AAACATrGCT | GCCGTTTCTT | CAATTGCATC | TAAAACATCA | 3120 |

TTTAAATCAG TAATTACTTG ATGTACTAAT tCGcACCATG TGA CTCATAA GTTTTAATGT 3240  
 TGTCTGAGTA TGCTTTTAAA TCTAAATGTG TATTGAAATC CATTTTACCG AATTCAATAG 3300  
 5 CAGCACGATC CAGATTGAAA ACCATCTCTT CTAATTGAAC CATAAACTTA TCTTTTTTCT 3360  
 TACTAAACAT TTAAATCCT CCATTTAAGC GATTGTCACC AATCACATTC AGTTATAATT 3420  
 TGTTCCAAAT TAAGACAAGT GAATTTACAA ACTAATGATA CAAATTTGTT ATTATCAATC 3480  
 10 GTCAGTATAA TTTTAGTGTA CTGATATTAA TTTCAAAAAT GCCTCACAGT AAACAATTTA 3540  
 CTGTATTTGC CCTTATA 3557

## (2) INFORMATION FOR SEQ ID NO: 258:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1631 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 258:

AACTATACAT TTCGAAAAAT TCTTCTAGTG AACCTGCGCC ACCAGGAGCC ATGACAAATG 60  
 25 CATCTGCAAG TTCTGCCATT TTATTTThAC GTTCATGCAT AGAATCAACT AAAATTAATT 120  
 CAGTTAAACG TTGGCTTG TG ATTTTCATGTT CATCTAACAT TTTAGGCATG ACGCCAATAG 180  
 30 CTTTGCCGCC ATGATCTAAT ACACCATCTT GaATGGCACC CATAATGCCA ATTGACCCTG 240  
 CACCAAATAC TAATTCATAA CCTTGTTT CAG CAAAATATTT ACCTAAATCG TATGCTTTTT 300  
 GTACATATGA AGGGTCATGA CCTTTGCTTG CACCACAATA AACTGCGATT CGTTTCATGT 360  
 35 TAATCCAGCT CCTTAATTCG ATGAATGACT TTTAATAGTG ATTGTTCAAA CACTTTTTGA 420  
 TCTTgCTTTG TAAAAGGTGG GGGACCTTTG TGGCGACCAC CTTGTTTTCT AATTTGTGCA 480  
 TTCATATATC GTTTATCTAA TAGTTGTTGA ATATTTTTTG AATTGTATAT CTTCCCATTA 540  
 40 TGATGCATGA CAATTAAGAC TTTGTCGACT AATAAACTTG CGAGTCCATA ATCTTGAGTG 600  
 ACTACGATAT CATCCTTCGT TGATAATTGA ACAATTTTGT AATCAACTGC ATCTGGTCCA 660  
 TCATCAACAT ATAATGTTGA TACATGTGGA GGATATAATT GGTTCGAAAA ATGGCTGAAG 720  
 45 CTCCGAATAA TTGTCACAAA AATGCCTGTC TCAGTTGTTA AATCTATAAT AGAATCAACA 780  
 ACAGGACAAG CATCTCCATC AATAATAATA TGTGTCACAA TTATGCCTCT GTATTGTTTT 840  
 CTTTATTTTTG TTGAGAGGCG CTTTGGCAA CATAATCTTT ATATTTTTTA AATGACTTGA 900  
 50 TGC GTGCTTT ATCAGCTTCT TGTTGGCGTT TTTGTTCTTC TTTGTGTCGT TTTCAATAT 960

CGCCTTTTTT CTCAGTTTTT TCATCTAATT TATTAGGTGT TAAGCCTGCT TTTTCTTCGT 1080  
 ATTTTGTGA TTTTTCATA TCTTTAATAC GTTGTATTTT ATTCTTTTCG CGGGCTTTTT 1140  
 5 GCTCTTCTTT ATGACGCTTT TCGATATTTT TTTGAAGTAT TTTATTCATT TTATCAGCGT 1200  
 CTTTACGATT TTGTTTAGCT AATTTTTTCG CTTTTTCTC AATATAGGCA GGATCATGTT 1260  
 CTCTAGCAAA CTTTTTAAGT TCACGTTTAT TTTCAAAATC TTGTTTTTTA TCGCCGACAT 1320  
 10 ATTCTTTAAC ATCACTCGCT GTGTTACTGA TTGCTGCAGA TGTTTTTGAA GCAACTTTAC 1380  
 TTGTAGCATC TGTAACTTTT TGTACGTCCG GATGTTGTTT GATACGTTTA CGTTCAACAA 1440  
 TTAACGGTAC CAATACAATT GGTAATACAT TAATCATAAA TTTGATGACT TTTTCTTAT 1500  
 15 CCATAGATCT TGcCTCCaTA ATTACTTTAT TAAtTTTACa TACCctATGa TACATCAATA 1560  
 TAAACGATGA TAGTAGTGAA TCACTATTAA GTATTTTCA GA TGTtTTtTAA AAgAGaCCC 1620  
 AATTAnAAAA A 1631  
 20

## (2) INFORMATION FOR SEQ ID NO: 259:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 6645 base pairs  
 25 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 259:

CGAAATCATG ATTAAATGCT TTTTCATATA AGCTTTTCCA ATTAATCTTT CGTCCATGAT 60  
 ATTCTTCAAC TGTGCTAGA TATTGTGCAA TTTTAGTTAC TTTAAAGGAG TGTGCTGCAA 120  
 35 CaTTGTGkTC mAAATATTTA AATTTTCCaG GtAATCTTAT AAGTCTTTCC aTATCTGATA 180  
 ATCTtTTAAA ATATTGATGT ACACCCATTT CAATTACCTC CTCCATTAAT TAATCATAAA 240  
 TTATACTTTC TTTTACATA TCAATCAATT AAATATCATT TaAATATCTT CTTTaTATAA 300  
 40 CTCTGATTAA ATGATACCAA AAAATCctCT CAACCTGTTA CTTAAACAGG CTAAGAGGAT 360  
 AGTCTTGTCT TGATATATTA CTTAGTGGAT GTAATTATAT TTTCTGGAT TTAAAATTGT 420  
 TCTTGAAGAT TTAACATTAA ATCCAGCATA GTTCATTTC GAAACAGTAA TTGTTCCATT 480  
 45 AGGGTTTACA GATTCAACAA CACCAACATG TCCATATGGA CCAGCAGCTG TTTGGAAAAT 540  
 AGCGCCAAC TCTGGTGTtT TATCTACTTT AAATCCTGCA ACTTTTGCTG CGTAATTCCA 600  
 50 GTTATTTGCA TTGCCCCATA AACTTCCTAT ACTTCTACCT AATTGTGCAC GACGATCGAA 660  
 AGCATAATAT GTGCAGTTTC CATAAGCATA TAAGTTTCCT CTGTTAGCAA CTGATTTATT 720

|    |         |       |         |        |         |        |            |            |            |            |      |
|----|---------|-------|---------|--------|---------|--------|------------|------------|------------|------------|------|
|    | TACATTA | ACT   | GTCTTAG | TTA    | CTGCTTG | CTT    | AGGTG      | CTTGC      | TTAACTACTA | CTTTTTTAGA | 840  |
|    | TGCTTG  | TGT   | ACAGG   | TGT    | TTACTAC | CTT    | TTTAG      | CTTGG      | CTTGCTTTTC | TTACTGGTGA | 900  |
| 5  | TTTAAC  | CGCT  | TTAGTT  | TGT    | TCAC    | TTTATT | TTGAGG     | CACA       | AGTGAAATCA | CGTCACCAGG | 960  |
|    | AAAAAT  | TAAA  | GGTGT   | TACAC  | CAGGAT  | TGTA   | TGAATATAAT | TGATTCAACG | TTAAGTGATG |            | 1020 |
|    | CTCTAA  | AGCA  | ATCTT   | TATATA | ATGAAT  | CGCC   | AGCAACTACT | GTATAAGTTG | TCGGTGATTG |            | 1080 |
| 10 | CGTTTG  | TGCT  | TGAAC   | ATTTG  | ATACATA | ATT    | ATGTTGAACA | GGTGT      | TTTTTA     | CTTGTGTGCC | 1140 |
|    | ATGTTG  | TGT   | GCATG   | TGCTG  | CATTAT  | TTTAA  | AGCTAAAAAA | GCTAACACTG | ACGAAACCGT |            | 1200 |
|    | CACTGT  | AAGA  | GATTTTT | TCA    | TCTTG   | CTGTC  | ATTCCTTTGC | TGTTAGTATT | TTAAGTATGC |            | 1260 |
| 15 | AAATACT | TATA  | GCACA   | TACA   | TTTTGT  | CAAA   | AGCTATTGTT | ATAACGATGT | AATCAAATGG |            | 1320 |
|    | TTAACA  | ATAT  | AAAAAGA | ATA    | CAACCT  | TTTA   | TCATAGTGTA | AAATGTATT  | ATACCATGTA |            | 1380 |
| 20 | ATTGAGA | ACG   | TTTCA   | ATAA   | TTAATT  | CAAT   | ACCTTGAAAA | TCGCCATAGG | TAATATTACT |            | 1440 |
|    | AAATGC  | CACAC | TGCAT   | ATGTT  | GTTTTA  | ACAA   | ACCAACTTT  | TAAAAAATAT | ATTCTAACTC |            | 1500 |
|    | TATCTA  | CCGA  | ATTGT   | ACTTA  | AATATT  | CATA   | AACAAATCAT | ATTCCAAAAT | CTAATTTACA |            | 1560 |
| 25 | ATTTAT  | TTAG  | CTACCT  | TTAA   | AAAAAC  | CAAA   | AACCGACGCC | CTTTTAGAGC | CTCGGTTTTA |            | 1620 |
|    | AAATAT  | ATAT  | TAATCG  | TGCG   | ACATTG  | TCTG   | TCTTAAATAT | GATTCGATAA | ATGGTCCAAT |            | 1680 |
|    | GTCTCC  | ATCC  | ATCACT  | GCAT   | CAACCT  | TACC   | TGTTTCTTCG | TTCGTACGAT | GATCTTTTAC |            | 1740 |
| 30 | CATTGAG | TAT   | GGATG   | GAAAA  | CATAT   | GATCT  | AATTTGGCTT | CCCCAGCCGA | TTTCTTTTTG |            | 1800 |
|    | TTCGCC  | ACGA  | ATTTCA  | GCCA   | TTTCA   | CGTGC  | CTGCTCTTCC | AATTTTAATT | GATATAATTT |            | 1860 |
|    | AGACTT  | TAAAC | ATTTTC  | CATAG  | CTGCTT  | CACG   | GTTTTTAATT | TGAGAACGTT | CATTTTGTTT |            | 1920 |
| 35 | ATTAACA | ACT   | ATACCT  | GAGG   | GGTGG   | TGGGT  | AATTCGTATT | GCCGATTCAG | TTTTGTTAAT |            | 1980 |
|    | ATGCTG  | ACCA  | CCTGC   | ACCAG  | AAGCT   | CTGAA  | TGTATCAACT | GTAATATCAT | CCGGATTGAT |            | 2040 |
|    | TTCAAT  | CTCT  | ATTTCA  | TCAT   | TATTA   | AAATC  | TGGAATAACG | TCGCATGATG | CAAATGATGT |            | 2100 |
| 40 | ATGACG  | ACGT  | CCTGAT  | GAAAT  | CAAAT   | GGAAG  | AATTCGTACT | AGTCGGTGTA | CACCTTTTTC |            | 2160 |
|    | AGCTTT  | TAAA  | TAACC   | ATAAG  | CATTAT  | GCCC   | TTTGATGAGC | AATGTTACAC | TTTAAATCCC |            | 2220 |
| 45 | CGCTTC  | ATCC  | CCAGG   | TAGAT  | AATCA   | ACAGT  | TTCAACTTTA | AAGCCTTTCT | TCTCACAATA |            | 2280 |
|    | ACGTTG  | ATAC  | ATTCT   | AAATA  | GCATAT  | TAGC   | CCAATCTTGA | GACTCCGTGC | CACCTGCACC |            | 2340 |
|    | AGGATG  | TAAC  | TCTAGA  | AATTG  | CGTTAT  | TGGC   | ATCGTGAGGC | CCATCTAATA | ATAATTGCAA |            | 2400 |
| 50 | TTCGTAT | TCA   | TCCACT  | TTAG   | CCTTAA  | AATT   | AATGACCTCT | TGCTCTAAGT | CTTCTTTTAT |            | 2460 |
|    | TTCTTC  | ATCA  | AATTC   | TTCTT  | GTAATA  | AAATC  | CCAAGTAGCA | TCCATGTCAT | CTACTTCTGC |            | 2520 |

|    |            |            |             |             |            |            |      |
|----|------------|------------|-------------|-------------|------------|------------|------|
|    | TTGCGCTTTC | GTTTGGTTAT | CCCCAAAATT  | AGGTTCTGCC  | ATCATTCTCT | CATATTCTTG | 2640 |
|    | AATATTAGTT | TCTTTGTTCT | CTAAGTCAAA  | GAGACCCCCT  | AATTTGTGTT | AAATCTTGAT | 2700 |
| 5  | TATACTTATC | TATATTTCTG | TTGATTTCTG  | ATAATTCCAT  | AGcATTGCT  | CCTATTTATA | 2760 |
|    | TTTCAATTCA | AGTCATTGAT | TTGCATCTTT  | TATAATGCTA  | AATTTTAACA | TAATTTTGTT | 2820 |
|    | AAATAACAAT | GTTAAGAAAT | ATAAGCACAC  | TGACAATTAG  | TTTATGCATT | TATTGTTAAA | 2880 |
| 10 | AATCAGTACA | TTTATCATCG | ACATATGCCT  | AAACCGATTT  | TTTAAACTA  | AGTACATAAC | 2940 |
|    | AACGTTTAAC | AACTTCTTCA | CATTTTTTAA  | AGTATTTAAC  | GCTTGTAAAA | TAAAAAGACT | 3000 |
|    | CCTCCCATAA | CACAACTAT  | AGGTGTTTAA  | TTGGAAGGAG  | TTATTTTATA | TCATTTATTT | 3060 |
| 15 | TCCATGGCAA | TTTTTGAATT | TTTTACCACT  | ACCACATGGA  | CAATCATCGT | TACGACCAAC | 3120 |
|    | TTGATCGCCT | TTAACGATTG | GTTTCGGTTT  | CACTTTTTCT  | TTACCATCTT | CAGCTGAAAC | 3180 |
| 20 | GTGcTTGCT  | TCACCAAAC  | CTGTTGTTTT  | TTACGTTTCA  | ATATTATCTT | CAACTTGATC | 3240 |
|    | TACAGATTTT | AAAATGAATT | TACAAGTATC  | TTCTTCAATA  | TTTTGCATCA | TGATATCAAA | 3300 |
|    | TAATTCATGA | CCTTCATTTT | GATAGTCACG  | TAATGGATTT  | TGTTGTGCAT | AAGAACGTAA | 3360 |
| 25 | GTGAATACCT | TGACGTAAAT | GATCCATTGT  | GTCGATATGA  | TCAGTCCAAT | GGCTATCAAT | 3420 |
|    | AGAACGAaGT | AAAATCATAC | GCTCAAACCTC | ATTCATTTGT  | TCTTCTAAGA | TATCTTTTTG | 3480 |
|    | ACTTTGATAT | GCTGCTTCAA | TCTTAGCCCA  | AACGACTTCG  | AAAATATCTT | CAGCATCTTT | 3540 |
| 30 | ACCTTTGATA | TCATCCTCTG | TAATGTCACC  | TTCTTGTAAG  | AAGATGTCAT | TAATGTAGTC | 3600 |
|    | GATGAATGGT | TGATATTCAG | GCTCGTCATC  | TGCTGTATTA  | ATATAGTAAT | TGATACTACG | 3660 |
|    | TTGTAACGTT | GAACGTAGCA | TTGCATCTAC  | AACTTGAGAG  | CTGTCTTCTT | CATCAATAAT | 3720 |
| 35 | ACTATTTCTT | TCGTTATAGA | TAATTTACAG  | TTGTTTACGT  | AATACTTCAT | CGTATTCTAA | 3780 |
|    | GATAcGTTTA | CGCGCGTCGA | AGTTATTACC  | TTCTACACGT  | TTTTGTGCTG | ATTCTACAGC | 3840 |
|    | TCTTGATACC | ATTTTTGATT | CAATTGGTGT  | AGAGTCATCT  | AAACCTAGTC | GGCTCATCAT | 3900 |
| 40 | TTTCTGTAAA | CGTTCAGAAC | CAAAACGAAT  | CATTAATTCA  | TCTTGTAATG | ATAAATAGAA | 3960 |
|    | GCGACTATCC | CCTTTATCAC | CTTGACGTCC  | AGAACGACCA  | CGTAACTGGT | CATCAATACG | 4020 |
| 45 | ACGAGATTCA | TGTCGCTCTG | TACCTATTAC  | TGCTAAACCG  | CCTAATTCCT | CTACGCCTTC | 4080 |
|    | ACCTAATTTG | ATATCTGTAC | CACGACCAGC  | CATGTTAGTG  | GCAATAGTAA | CGGCACCTTT | 4140 |
|    | TTGTCCAGCG | CCTGCAACAA | TTTCAGCTTC  | ACGTTTCATGA | TTTTTCGCAT | TTAACACATC | 4200 |
| 50 | ATGACGGATA | CCACGTTTTT | TAAGTAAATT  | TGAAATATAT  | TCAGAAGTCT | CAACTGCAAC | 4260 |
|    | AGTACCTAAT | AGCACTGGTT | GCCCTGCCTT  | GTGTTTTTCA  | ACAACATCTT | CTACTACTGC | 4320 |

|    |  |      |
|----|--|------|
|    | TTTATTTGTC GGAATTTGAG TTACTGTCAT GTTATAAATA TTTCTAAATT CTTCTTCTTC  | 4440 |
|    | AGTTTTAGCT GTACCTGTCA TACCCGCAAG TTTATTGTAC ATTCTGAAAT AGTTTTGGAA  | 4500 |
| 5  | TGTAATAGAC GCCATAGTTT TAGATTCATT TTGAATTTGA ACGCCTTCCT TCGCTTCAAT  | 4560 |
|    | AGCTTGGTGT AAACCTTCCG AGAAACGACG GCCTGGCATT GTACGTCCTG TAAATTGATC  | 4620 |
|    | GACAATTAAT ACTTCGCCAT CAACAACCAT ATAGTCTACG TCACGTTGTA ATGTAACGTG  | 4680 |
| 10 | CGCACGTAAA GCTGTGTTGA TATGACTAAT AACATCAACA TTTTGTACAT CATATAAGTT  | 4740 |
|    | TTCAACTTTG AACATACGTT CAGCTTTATC CGCACCTTGT TCTGTTAAAT GTACAGCTTT  | 4800 |
|    | CGTTTTTTTCA TCGTATTTAT AATCTTCGTC CTGTTTTAAC ATTTTCGCAA AAACATTTGC | 4860 |
| 15 | TTGTGTATAA AGTGACGTTG ACTTTTCAGC TTCACCAGAA ATAATTAATG GCGTACGTGC  | 4920 |
|    | CTCGTCGATT AAAATTGAGT CAACCTCATC AATGATTGCA AAATGTAATG GACGCATTAC  | 4980 |
|    | TCTATCTTCA GAATAATTCA CCATGTTATC TCGTAAGTAA TCAAAACCTA GCTCATTATT  | 5040 |
| 20 | AGTACTGTAA GTAATGTCTT GTGCGTATGC TTCACGTTTT TCTTCTGTCT TCTTACTGTT  | 5100 |
|    | TAAGTTTAAAT CCGACAGTCA AACCTAAGAA GTTATATAAC TCAGCCATTT CTTCACTTTG | 5160 |
| 25 | AACACTTGAT AAGTATTCAT TGA CTGTAAT AACGTGAACA CCTCTACCAG CTAATGCATT | 5220 |
|    | TAAGTATGTT GGCATTGTCT CTGTTAATGT TTTACCTTCA CCTGTTCTCA TCTCAGCGAT  | 5280 |
|    | ATCACCTTTA TGAATTGCAA TACCACCCAT AATTTGAACT TTATATGGTG TCATATTGAA  | 5340 |
| 30 | TACACGTTTA GAGCCTTCTC TAACAAGTGC ATATGCTTCT GGTAAAATTT TATCTAAATA  | 5400 |
|    | ATCATTTTGC TTTTGTGACAT TATCAATGTC AGCTAATTCT GTTTGGAATT GTTTCGTTTT | 5460 |
|    | ATTACGAATT TCTTCATCAG TTAAAATTGC CGTTTTTCT TCTAAAGCGA TTACTTTATC   | 5520 |
| 35 | AGCAAGTTTA CCTAACTGTT TAATTTCTTT ATTATTGCCA TCAAGAATTT TTGATAAAAA  | 5580 |
|    | TCCCATTTCG TTCGCTCCTT TAGCTAAAAA ACTGTTTGGC CTACAACAAT ATATCTTATC  | 5640 |
|    | ATTTATAGTT AGAAAATTAT ACTTATTTAC TCATTTGTAG AATCAATATA AATATATTTA  | 5700 |
| 40 | TGACATACTT CATTCACATT CTGTTGTCAA CAAGTTTATC ACTAATAAAT ATATTCTCAA  | 5760 |
|    | TACGCAATTA TACTTCCTAA TAAATTATAT TATAAATATT TTACGATTTT CGACTCGGAC  | 5820 |
|    | TATACAATAG ACTGACATAC TATTATTAAC TTAACATTCA AATATATACA TCCATTAACA  | 5880 |
| 45 | TTAGCATAGT CACTATGTTT CATTCAACAA ATTACATTAT CGAACTATGA AATAGTCATA  | 5940 |
|    | ATTTGCTTTT GGAGTATAAA AAAGCACTTG TGCAAAAACA CAAGTGCTTT AACTTAATT   | 6000 |
|    | TATTGTTTAC TAGTTTGAAT CAAGCCATAT TTACCGTCTT TACGGCGGTA AACGATACTT  | 6060 |
| 50 | GTTCCATCAG TTTCTCTGTC TGTGAATACA AAGAAGTCAT GACCTAATAG ATTCATTTGT  | 6120 |

ATCTCGTTAT CATCGTAAGC GTCATTATCA ACTTGTGTTT CTTGCATTTC TTGTAATTCC 6240  
 GCAACAAACA CTTCTTGATC TCCTCGATCA CGGCTCTTAC GATTAATACG TGTTTTATAT 6300  
 5 TTTGGAACCTT GTCTTTCAAG TTTATTATTA ATTAAATCAA TACCTGCGTA TAAATCATCG 6360  
 TTTGCTCTTT CAGCTCTTAA CGTAACATTT TTCAATGGAA TTGTTACTTC AATTTTAGTA 6420  
 GCTGAATTTG AATAAGTTTT AACTTTAACA TGCGCCACTG CATTGTTTAC GTCATTAAAA 6480  
 10 TAACGTTCCA ACTTACCAAT TTTTTCCKCA ATATAGTTGC GAATAGCATC TGTGATAGTG 6540  
 AGGTTATCTC CATGAATTTT AAATCTAATC ATAGTAAATC TCTCCTTAAA CCTCTTTATn 6600  
 GGnAACTCnT TATTATATTT AACATTTTTTA CGCCAATCGT GCAAA 6645

## (2) INFORMATION FOR SEQ ID NO: 260:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 7430 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 260:

CAGTTCAGC ACATCTATTG GGGATCAACA AACTAGGGAA AATGCTAATT ATCAACGTGA 60  
 AAACGGTGTT GACGAACAGC AACATACTGA AAATTTAACT AAGAACTTGC ATAATGATAA 120  
 30 AACAAATATCA GAAGAAAATC ATCGTAAAAC AGATGATTTG AATAAAGATC AACTAAAGGA 180  
 TGATAAAAAA TCATCGCTTA ATAATAAAAA TATTCAACGT GATACAACAA AAAATAACAA 240  
 TGCTAATCCT AGCGATGTAA ATCAAGGGTT AGAACAGGCT ATTAATGATG GTAAACAAAG 300  
 35 TAAAGTGGCG TCACAGCAAC AGTCAAAAGA GGCAGATAAT AGTCAAGATT CAAACGCTAA 360  
 TAACAAATCTA CCTTCACAAA GTCGAATAAA GGAAGCACCA TCATTAAATA AGTTAGATCA 420  
 AACAAAGTCAA CGAGAAATTG TTAATGAGAC AGAAATAGAG AAAGTACAAC CACAACAAAA 480  
 40 TAATCAAGCG AATGATAAAA TTAATACTA CAATTTTAAC AATGAACAAG AAGTGAAACC 540  
 TCAAAAAGAC GAAAAAACAC TATCAGTTTC AGATTTAAAA AACAAATCAA AATCACCAGT 600  
 AGAACCAACA AAGGACAATG ACAAGAAAAA TGGATTAAAT TTATTAAAAA GTAGTGCAGT 660  
 45 AGCAACGTTA CCAAACAAAG GGACAAAGGA ACTTACTGCA AAAGCGAAAG ATGATCAAAC 720  
 GAATAAAGTT GCCAAACAAG GGCAGTATAA AAATCAGGAT CCTATCGTTT TAGTGCATGG 780  
 50 TTTCAATGGG TTTACAGATG ATATTAATCC TTCAGTGTTA GTCATTATT GGGGCGGTAA 840  
 TAAAATGAAC ATTCGCCAAG ATTTAGAAGA AAATGGTTAC AAAGCTTATG AAGCAAGTAT 900

|    |            |            |             |             |             |            |      |
|----|------------|------------|-------------|-------------|-------------|------------|------|
|    | TCGTGTAGAT | TATGGTGCAG | CACATGCAGC  | AAAATATGGA  | CATGAACGTT  | ATGGAAAAAC | 1020 |
|    | ATACGAaGGA | ATTTACAAAG | ACTGGAAACC  | AGGACAGAAG  | GTACACCTAG  | TTGGACATAG | 1080 |
| 5  | TATGGGCGGT | CAAACGATAC | GTCAACTAGA  | AGAATTACTG  | CGTAATGGTA  | ATCGTGAAGA | 1140 |
|    | AATAGAGTAT | CAAAGAAAC  | ATGGTGGcGA  | AATTTCTCCA  | CTATTCAAAG  | GTAATCATGA | 1200 |
|    | CAATATGATT | TCATCAATTA | CTACTTTAGG  | AACACCACAT  | AATGGTACAC  | ACGCATCAGA | 1260 |
| 10 | TTTAGCTGGT | AATGAAGCTT | TAGTGAGACA  | AATCGTATTT  | GATATCGGTA  | AAATGTTTGG | 1320 |
|    | TAATAAAAAT | TCAAGAGTAG | ACTTCGGGTT  | GGCTCAATGG  | GGTCTAAAAC  | AGAAGCCAAA | 1380 |
|    | TGAATCATAT | ATTGATTATG | TCAAACGCGT  | TAAACAATCT  | AATTTATGGA  | AATCAAAAGA | 1440 |
| 15 | TAATGGATTT | TACGATCTGA | CGCGTGAGGG  | TGCAnCAGAT  | TTAAATCGTA  | AAACGTCGTT | 1500 |
|    | GAACCCTAAC | ATTGTGTATA | AAACATACAC  | TGGTGAAGCA  | ACGCACAAAG  | CATTAAATAG | 1560 |
|    | CGATAGACAA | AAAGCAGACT | TAAATATGTT  | TTTCCCATT   | GTGATTACTG  | GTAACCTAAT | 1620 |
| 20 | CGGTAAAGCT | ACTGAAAAAG | AATGGCGAGA  | AAACGATGGT  | TTAGTATCCG  | TTATTTCTTC | 1680 |
|    | TCAACATCCA | TTTAATCAAG | CTTATACAAA  | AGCGACAGAT  | AAAATTCAAA  | AAGGCATTTG | 1740 |
|    | GCAAGTGACG | CCTACAAAAC | ATGATTGGGA  | TCATGTTGAC  | TTTGTAGGAC  | AAGACAGTTC | 1800 |
| 25 | TGATACAGTG | CGCACAAGAG | AAGAATTACA  | AGATTTTTGG  | CATCATTTAG  | CAGACGATTT | 1860 |
|    | AGTGAAAAC  | GAAAAGCTGA | CTGATACTAA  | GCAAGCATAA  | TTTATAAAGT  | AAAGGGAGGA | 1920 |
| 30 | ATTAATAATG | ACTGCAGACT | TCTTTCAATT  | AATCGGATCA  | TTATTTAGAA  | TTCTAAAAGA | 1980 |
|    | ATTATTCAAG | TAAAACATTG | GCGAGGCCCC  | AACATAAAGA  | ATTTGAAAA   | GAAATTCTAC | 2040 |
|    | AAACAATGCA | AGTTGGCGGG | GCCCCAACAA  | AGAAGCTGGC  | GGAAAGTCAG  | CTTACAATAA | 2100 |
| 35 | TGTGCAAGTT | GGCGGGGCCC | CAACATAGAA  | GCTGGCGGAA  | AGTCAGGTTA  | CAATAATGTG | 2160 |
|    | CAAGTTGGGG | TGGGACGACG | AAATAAATTT  | TGCGAAAATA  | TCATTTCTGT  | CCCACTCCCA | 2220 |
|    | TTGGCATTTA | CGAAGTTTAA | ATGTGCAATT  | AGAATATATG  | TATAACAATA  | TTAAACACGC | 2280 |
| 40 | GGTAAAACGA | AGTCAGTCAA | TTCAAACCTGA | TTTCGCCCCAC | CGCGTGT TTT | TAACATAGCT | 2340 |
|    | TAATAATTAA | TAAGCATTAA | TGTTCAATTT  | ATATGGTTGT  | TTTCCAATAA  | TAAACCTAAA | 2400 |
|    | GATATAGAAT | TCACGCAATA | TCATGCCGAC  | ACCTATACAT  | AATCCTAAAA  | TGAATAGTAG | 2460 |
| 45 | TGATATCGCT | AGAAAGACCA | TTGTATTATC  | CTCAAATATA  | TTTGTATATG  | CAAACAATGA | 2520 |
|    | GTCTAGAATG | ATTGGATGTA | ATAAATAAAT  | AAAGAATGAG  | AAAGCACTAA  | TCATTTGAAT | 2580 |
|    | CGTATTAAAT | AACATTGTTT | TAAAATGCGT  | GCAAATACCC  | AAGATAACAA  | TAAACATAAT | 2640 |
| 50 | ACTATTATAT | GGTGTTAATG | AATATGAAAA  | GCTGGTAACG  | TTCCAATAGT  | CTCCaTTTGT | 2700 |

|    |            |            |            |            |             |            |      |
|----|------------|------------|------------|------------|-------------|------------|------|
|    | TCTAAGAAAT | TTAATACACG | TTCGTAGTTA | TAACCCATAT | ATGCACCTAA  | GAAGAAATAA | 2820 |
|    | AAAATCCATC | CGAATATTAT | AGTATTTTCA | CTTAATGGAT | AATAGTGTAG  | CACGGTATCG | 2880 |
| 5  | TGAAACGCTG | TGTTGTTCGT | AAAGTAATAT | AAAAATGATT | GCTGTAAAAT  | AAAAGATAAC | 2940 |
|    | AATAATAATA | TTTTACTGTT | GAATAGGTTA | TAGTTAATTT | TAAAAATGAT  | ATAACTCAAA | 3000 |
|    | ATAAAGAATT | GCATGATAAC | AACGATAAAA | TAGCCATACC | ATTGACCTAA  | TAGGACATTT | 3060 |
| 10 | TCAATGAATT | GTTTATTGAA | ACTTGAATCT | GTTAATAATG | ATTCACTATA  | ACTGTAAAAC | 3120 |
|    | AATCCCATTA | ATATGTAAGG | AATAAGTATA | TATTTTACGC | GTGTAGTTAA  | GTATCTATAG | 3180 |
|    | GTGACTTTTT | GGTAATTCAA | GGTTGTCAGT | AACTGTGACA | AGATAATAAA  | GCAAGGTGTA | 3240 |
| 15 | CCAAAAATCA | CAATATTACG | AATGTAAAAT | TGTAACACTA | AGGATCCACC  | CTCCATATTT | 3300 |
|    | TCATGTTTTA | AAGTAATTTG | TGTAAGTAAA | TGTGTGATAA | TAATAATTGC  | ACATATAATA | 3360 |
|    | GCACGTAAAT | ATACGAGTTC | AAGTCTAATC | TTTTTCATGG | AATCCGTCCC  | ATCTCTTAAT | 3420 |
| 20 | TAAATGCTCA | AAAGCATCAT | CACTAATTAA | TATTCTAGGG | ATGTAATAAT  | CATTGGAGTT | 3480 |
|    | CGGAGTGACT | GCTTTTTCTT | CTAATGAAAA | ACCGTATTTT | AACCCAGCTT  | TTTTGATTAC | 3540 |
| 25 | CGGTAATTTA | TCGTCATTCA | TCAAGCCATA | AGGATAGGCT | ATAGTTTTCT  | GCGACTTTTT | 3600 |
|    | AAAGTTTTTA | GTTAGATATT | TTTCACTTTT | GTTTAAATCT | TTTATGATTG  | TAGCTTCAGA | 3660 |
|    | AGCTTTCATT | AATTTTGACT | TATTATTTTT | AGATAAGTTA | TGCAAATCGT  | GGGTATGTGT | 3720 |
| 30 | TTCAAATTCC | CATAACCCAG | TTTTATACAT | TTCTTTTAGT | TCTTTTTTAC  | TAATCATATC | 3780 |
|    | GAGGTTGTGA | AAGTTTTCTT | CCCCAACATG | ACCTGTGATA | ATAAACCCAG  | TTGCCGGTAT | 3840 |
|    | TTTATATTTT | TTTAAGATTG | GATAAGCATT | TTCATAAATA | GTTTCATCCA  | TATCATCAAA | 3900 |
| 35 | GTTAATCCAT | ACACTTCGTT | TTGGAAACTT | ACCTTTTTTC | TTGTAAATATA | AAAATTCTTT | 3960 |
|    | CAAGGTTAAA | AATTTAGCAT | CATGTGATTT | TAGCCATTTT | ATTTGAGATT  | CAAATTGTGA | 4020 |
|    | TTGACTAACA | CTATAATTTT | TAATTTCTTT | ACTACTAGAA | AAGAAGTAAA  | TAAAATTATT | 4080 |
| 40 | CAGAAAATTC | GCTTTTCTTA | CACGGTGATA | ATTTAATGCC | AGAGCACTAT  | TTTCTTTATA | 4140 |
|    | TTTCAGTTTT | TTAGGTGAAT | CGTCATCTGC | ATTTGCAATA | TGATGACCAT  | CCAGTGTGCT | 4200 |
|    | TACAGGCAAT | ATGATCAAGA | TACTCAACAC | TAAAATTATA | AATTTTCTAT  | ACTTCACGAT | 4260 |
| 45 | TCTCTTCCTC | TCTGCCATTT | TTGAATCAAT | ATGCTAATTG | TAAAAAATAC  | AAAAATGATA | 4320 |
|    | ATCGCGAAAA | TGCCCATAGT | TTCAAATATA | TCTAAAATTT | CAGTATTTTC  | AATGTTTAAA | 4380 |
|    | GCAACACGTA | TTGTATTGAT | ACTTTCGTCA | TGAATTTCAA | ATATAGTACC  | AATATAAACG | 4440 |
| 50 | AGTAGAACAA | CTAAACAATA | TATCCAAAAG | ACACAAGATA | TAGCGATAAG  | TGCTGTTTCT | 4500 |

|    |  |      |
|----|--|------|
|    | TTGCGTAACC ACCTTTCTTA CGTTTTAATG CTTTTGGAAA TCGACAAGA ACTACTGCTG   | 4620 |
|    | CGTTAATAAT CCAGTATACT GTCGGATACC AACTTACAAA TATGAGTCCA GCCATATTCT  | 4680 |
| 5  | TTTTCTCGTA GCGACTATCA ATAAAGAGTG CGACTGTAAA TTGAATAACG TTTATAAAAG  | 4740 |
|    | TCATAGTAAA TGATGATAGT AGAAATATTG AAAAAGTATA TGTCATAAAT GTATAGTCTA  | 4800 |
|    | AGAAGTTTGC TGTATGAAC AAATAGCCTA AATATAGAAG CACTATATAT ACCCATAAAA   | 4860 |
| 10 | TCGAGATGAT TTGCTCAAAC ATCAAAATAT ATAAAGGAAA CCTTTTCGTT TTCATTGTGC  | 4920 |
|    | TAAAAAAGTC TCGTAGTAAT ACTTCGTGTC CCCCTTGAGC CCATCTCACG CGTTGCTTCC  | 4980 |
|    | AAAGACCTCC CAATGTTTCT GGAACCAACA TCCAACACAT GGCAAGCGGT TCATACTTAA  | 5040 |
| 15 | TACGATATCC ACGTAAATGC AATTTCCAAG AAAGTCAAT ATCTTCGGTA ATCATATCAG   | 5100 |
|    | TATCCAGTA GCCAACGTCG ACAACTGCAC TTTTTTTAAA TAGAGTGAAG ACACCCGAAA   | 5160 |
|    | TAGTATTGAC TCGCCAGCA AGTGTCTGAC TCGCTTAAT ACAGCCAATT AAAGTGCAT     | 5220 |
| 20 | ATTCTATCGT TTGAATTTTA CCTAAATAG AACTCTTATT TCGAATTCTA GGATTACCTG   | 5280 |
|    | TAACTGCACC AAGTTTTGGA TCATGTTTGA AATTCTCAAT CATATAATAT GGTGCATCTT  | 5340 |
| 25 | GATCAACGAT AGTATCTGCA TCCAAGCACA TTACATAATC ATATGAAGCC TGTTTAATGC  | 5400 |
|    | CTTGATTGAG TCGGTTGGCT TTACCTCTGT TTTCTTGTA ATCGACGAAA ATAAAGTCAT   | 5460 |
|    | TATTTTCTTT GATTTTATAG ATGAGTTCTG CTGTATTATC TGAAGTTCCA TCATTAAATGA | 5520 |
| 30 | TAATAATTTT TTTCTTCTCG TATTTGAGTG CAAGAACATT AGACAACGTA TCTTCAAYCG  | 5580 |
|    | TTTCACTTTC GTTATAACAG GCAAGTAAAA ATGTAATGCC TTCTAATTCA TCCACATTTA  | 5640 |
|    | TGTCAGGCTT CTTGTTCAAT GAATATCTAA TTTCTCTGGT AAAATAGAAA TAAATTGAAC  | 5700 |
| 35 | CGACAATCCA GTAAATAGAC ATAAATACAG GATAAAAAAG CAAAAAGTTA AAAAATTGCA  | 5760 |
|    | ATTCTTTTAC CTACCTTTTCG TTAGTTAGGT TGTAAGCCAT ATGGTAATTG ATAGTATTTT | 5820 |
|    | AATTTGCAAT AGATTGTTGT TATAATTAAA CGGAAATATT TGTAATTGCA ACTTAATTTT  | 5880 |
| 40 | CCTGTAACAT AGTGTGATTA ATTTTCAGTA GGGGGTTATA AAAATTGAAG GATAAGATTA  | 5940 |
|    | TTGATAACGC AATAACCTTA TTTTCAGAGA AGGGGTATGA CGGTACAACA CTTGATGATA  | 6000 |
|    | TAGCTAAAAG TGTAATATA AAGAAAGCGA GTTTATATTA CCATTTTGAC TCGAAAAAAA   | 6060 |
| 45 | GTATTTACGA ACAAAGTGTT AAATGTTGTT TTGATTACCT TAATAATATT ATTATGATGA  | 6120 |
|    | ATCAAAATAA ATCGAACTAT TCAATTGATG CTTTATATCA ATTCTTATTT GAGTTTATTT  | 6180 |
|    | TCGACATCGA AGAAAGGTAT ATTAGAATGT ACCTTCAATT ATCTAATACG CCTGAGGAAT  | 6240 |
| 50 | TTTCTGGAAA TATTTACGGA CAAATACAAG ATTTAAATCA ATCATTAAGT AAAGAGATAG  | 6300 |

TGCTGTTTCT TGAAAGTTGG TATTTGAAAG CATCCTTTTC GCAAAAATTT GGAGCAGTGG 6420  
 AAGAAAGTAA AAGTCAATTC AAAGATGAAG TGTATTCGCT ACTAAATATA TTTTGAAGA 6480  
 5 AATAATTTTT GTTACTAGTT TGTAATAATT AACTTACTTT TGTAACAAAA GACATGAGAT 6540  
 TATTTTTTTA AATCTATATA AAGTTGACAA TACAAATCGA TATTGAGAAT ATTAAGATGT 6600  
 10 ATATGAATTT TATAAATTAA ATGCAATACA TTAATATAAA TATCAATTGT TGCAAAATAC 6660  
 GATTTGTTCA ATGATTTGAT AATATTATTC TTTATATTTG TGAATGGTTA AGTTTGTCTT 6720  
 TGAACATATT ATAAAAGTGT AATGTTCCCC TGAAAAGAAT AAGTTGTCAT CTAATTACAG 6780  
 15 GAAATCCGCA TAAATTAGAT GAAATGGAAA GTAATAAGTA ATAATTTATT GATAAGCGCC 6840  
 TATGTGATGG TAAATCATGA CATAGGCGCT TTTTTTTATA AGTTAAAAAT GTAAATAAAA 6900  
 ATTATATAAA TTACCCACAT CTTTTTAAAA GGTGTGGGCT TTATTATCAT TAACCCAACT 6960  
 20 CACAGTGACG GGTTACGCAA GGTATTGAAT TACCGAGTAC GGGCACGCTC GGTGTTGTAA 7020  
 AGAGCAAATA ATCAAGTAAT GATGATGCTT CTAAGCGATT ATAAGAAAGC CATGATAGAG 7080  
 TACGATGGTA TCTAGTTTTA TTATTAATAG GTTTGGATAT TTAAAGTTGG ACAATATTAT 7140  
 25 ATCTTGTGCA AAAATATAAA TAAGTTATAC ATAATGGTAG AGAATCATGA TATAATTTTA 7200  
 AACGATAAAA TATTTATATA AATAATTAGA GaAAATGTAG TTGTGTATGT yTTGTGGtCG 7260  
 TTAAACTAGA TATAATTGTC CGATTTATAA AACATACATA ATGAATACaA TGATTGATTA 7320  
 30 TGTGGAGGAA ACCATGAmAG AmAAGTTTgA TTTAGTAAAA CTATTAAATA TTCTAAAGAA 7380  
 GAATATTAAA TTATTGCTTA TTTTACCGGC AATATGTCTT GTAGTAAGTG 7430

(2) INFORMATION FOR SEQ ID NO: 261:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4082 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 261:

45 ATTGTTACTC ATTATTTTTT CATATTCACA CAAATGATCT TGTTTATATT TAGCTAATTG 60  
 ATTTTATCT AGCATTTTAT CCTCCTGCTG AGTTTGTAAC CTTTAATAAT TTATTTTCTA 120  
 50 TAAAACTTA GTATTCCAGT TGCTTATTAT ATCATTGATG AAAGGCTGAA ATAAAACATA 180  
 AACTGTTCCG ACCATTAACG CTGTAGCTAA AGATAAGTCT ACAAGTCCAC CTGTTTTTAA 240  
 TTGAATCGGT GTCTTCACAT TAAACGGTAA gGAknAAAAT AATTCACGC CTTTTGGTGT 300

|    |             |            |             |            |            |              |      |
|----|-------------|------------|-------------|------------|------------|--------------|------|
|    | AGGCGTCTGA  | ATAATTTGCA | ATAAAAAATGC | TATGATTGCG | ATAAATAATA | TTGAATGCGT   | 420  |
|    | AAAGGTTTGA  | TGTCCAAAGA | TCAATCTCAC  | AAAAAACTA  | ATTACCTTAA | ACCTTCTGCC   | 480  |
| 5  | AATCTTACTT  | TGAGTGTGAC | ATATATCGGG  | TAATAAGCTA | GCTAGAGTTG | CTAGAATGAT   | 540  |
|    | AACCGTAACC  | GACGAAAAAA | TATCCGTTTG  | AAAATATTGT | GTTGTTAGCG | CTCCAACGAG   | 600  |
|    | CATGCCGCAT  | GAAGCATGTG | TTTTACCTGT  | CATATTTGTT | CTCCTTTAAT | ACTCACATTT   | 660  |
| 10 | TACCACATCC  | CTAACAAAAA | CACGAACATA  | TTTTCGGGTT | AAAATTCATT | AGTATGACAC   | 720  |
|    | AATTTAAAAA  | AGTATCACAT | AACTCTTGAA  | AACGATTACA | AAATCGTTTA | TGATGTATTT   | 780  |
| 15 | ACAAAAATATT | TAAAGGATGT | GTTTGAATAA  | TGGCAATGAC | AGTAAAAAAG | GATAATAATG   | 840  |
|    | AAGTGCGTAT  | TCAATGGAGA | GTTGCTGATA  | TCAAAATTCC | TACAAGTGAA | ATTA AAAAATA | 900  |
|    | TTACACAAGA  | CCAAGATATT | CATGCAGTTC  | CTAAATTAGA | CAGCAAAGAT | GTATCTAGAA   | 960  |
| 20 | TCGGCTCAAC  | GTTTGGTAAA | ACGAATCGCG  | TTATTATCGA | TACTGAAGAC | CACGAATACA   | 1020 |
|    | TTATTTATAC  | TCAAATGAT  | CAAAAGGTTT  | ACAATGAATT | AACTAAATAA | ATTGTATAAA   | 1080 |
|    | AaAATCATTC  | ATGGTGAGGG | CTTCATGAAT  | GATTTTTTTT | ATTGATTCAA | CACCCAGCAT   | 1140 |
| 25 | AAACAAATAC  | AAAAGGACAA | CTGTTCCCAT  | AATTTTAACA | GTTGTCCTTT | TTCACATATA   | 1200 |
|    | TTTATAACAA  | AAGATGTGCC | ATCAAAGAAA  | TAATTGGTAG | TGTAATGATT | GTTCTAATCA   | 1260 |
|    | AGAAAAATCAT | AAACAATTTG | CCGATGCTTA  | CAGGAATCTT | CGAACCAAGT | ATGACGCCAC   | 1320 |
| 30 | CTACTTCAGA  | CAAGTATATT | AACTGCGATA  | TACTAAGTGC | CCCAATAACA | AAACGAGTTA   | 1380 |
|    | TATCATTTTG  | TACACCTTCA | ATTAATATAG  | AAGGTAAAAA | CATATCGGCA | AAACCGATAA   | 1440 |
| 35 | TAATCGTTTG  | AGAAGCCTGT | GCCGCTTCAG  | GTATTTGCAT | TAACTCTAAA | AATGGAACAA   | 1500 |
|    | AAGGTTTACC  | CAATATGACA | AAAAAGGGCG  | TGTAGTTGCG | AATAATGGTA | GCAATAGTAC   | 1560 |
|    | CAATACTCAT  | TACTACAGGC | AAAATAACAA  | ACCACATATC | AATGACTGTT | TTTAATCCTG   | 1620 |
| 40 | ACTTAAAAAA  | GTCAATAACG | CCCGGTGCTT  | TAATACCTAC | TTCTGTTGCA | GTATCAAAGC   | 1680 |
|    | CATGTCTCAA  | TGCCGTCTTT | CCTTCTGGCA  | ATGCCTCAGT | ACGCGCACTT | TCAGGTACCT   | 1740 |
|    | CCTTAGCATA  | CTCATCAGGA | ATTTTATTTA  | AAGGCCAAAT | TCTTGGCATA | ATGACTGCTG   | 1800 |
| 45 | CAACGAGGCA  | GGATACTATC | ACTGATAAAT  | AGAAAGCAAA | AAATTGATTT | TGCATGTGCA   | 1860 |
|    | CTGTTTCAGC  | AACTACAATT | GCAAAGGTGA  | TAGAAACTAC | ACTAAATGTC | GTTGAAATAA   | 1920 |
|    | CTGTTGCCTC  | ACGACGAGAA | TAATATCCTT  | CACCATATTG | TCTACTTGTA | ATTAAGACAC   | 1980 |
| 50 | CAACAGTTCC  | GTCTCCAATA | AATGATGCTA  | AATTATCTAC | CGTCGAACGT | CCTGGCAATG   | 2040 |

|    |   |      |
|----|---|------|
|    | AACTTGAGAA CAATAATCCA CCCGTTTCAT CTGAGTAAAT AACCTTTGAA CCAATTCGTA   | 2220 |
|    | AAAATGTCAT CCATGCAAAA ACAACTGCTA ATATTTCGTAA AATTAACCAA CCAATTCTAA  | 2280 |
| 5  | CGTTAAAAGC ATTGTTTCATT AGCCCGTCAG GTTTC AATTT ATCTTTTAAA ATAGTTGAAC | 2340 |
|    | AAATCAGAGT TATGATACCC GATAAAGTAA TTATCGTCAC AATTAAAAAT GGCATTACGC   | 2400 |
|    | CACCTAATAC ATCTTTAAGC ACGCCTGCTA AAAATGCCAC GGGCAACGTT GTTTGCTTCT   | 2460 |
| 10 | GTCCATCTTG TTCGACTGGA ATTGGTACTA AAAATAATAA GATACCAATT AAAGACATCG   | 2520 |
|    | TAATAAACTT AAGTCTCCCA ATAACATCT CTTTCCTTGA AAAGCTATCC ATAAAATCAA    | 2580 |
| 15 | TCCATTTCTC TATGTATTCTG TTTTAAGTAT ATACAGAATT CTATTCAGTT AACAAACATA  | 2640 |
|    | TTCTTATCA TTCTATCTTT CAAAATGTTT ATGTATGCAA AATAATGAAT AATTACAGTT    | 2700 |
|    | ATTAAATATA CGCTATTTCT TGTAATTTTT CAAGATGAAT TCAAAAAAGG TTAAGTACAA   | 2760 |
| 20 | TTACTGATTT CGTACTTAAC CTTTTTTAAA CTCTAATCAT ATGTTAGTTA TTTCAATCTT   | 2820 |
|    | CGTAATAATA TTAAGAAGTA TGGTGCACCG ATAATTGCAA TGATAACCCC AACAGGAATA   | 2880 |
|    | TCCAGTGGCG GATGAATGCC ACGGGCTAAA CCATCTCCAA ATGTTAACAA TATAGCACCA   | 2940 |
| 25 | ATTAACCCCG ACATGATAAT AACGTGTAAT GTTTTATTTT CTATTAAITG TCTCGCAATA   | 3000 |
|    | TGAGGTGCAA TTAATCCTAA AAAGCTAATA CCACCGACAA CTGAAATTGC GGATCCTGCT   | 3060 |
|    | AATATTACTG CTAAAATTAA CAATAGCATT TTAATAGTTT TAACTTTTAA ACCGAGTGCG   | 3120 |
| 30 | GTTGCAACAG CATCACCTAG ATTCAATACA TCTAATTGAT AACTCAATAA AATGATGATT   | 3180 |
|    | GGTATCGTTA TTAAAAACCA AGGTAATATA GTATAAATAT TCGACATATC ATGTCCATAT   | 3240 |
| 35 | AGACTACCTG TCAACCAAAC AAGCGCTTTG TTTGCTTCCA GTGGATTTCT GATTAATAAG   | 3300 |
|    | AACTGCACAA TCGCCGTACA TATTGCGCCT ATTGCTAAAC CAATTAAGGC AAGCTTTGAA   | 3360 |
|    | CCTTTAACAT CATATTTTGA AATTAAAAAT GATAAAAATA AACTTACTGC AAAGGCACCT   | 3420 |
| 40 | AAGAATGAAC CTATAGGTAA TACAAACAAT GGTGCTGTTG GAAAGGTCAT AATAATAATC   | 3480 |
|    | ACAGCAGCTA AACTGGCACC TTTAGAAATA CCTATAACAT CAGGTGAGGC TAACGGGTTT   | 3540 |
|    | CTTATTACAG CTTGTATAAT TGCACCTGAA ATAGCCAAGC TACTACCGAT AATAATACCA   | 3600 |
| 45 | AGTAATGTTC TAGGTATACG ATACTCATTT AAAATAAAAT CATCTTGTGT AAAGATTCCC   | 3660 |
|    | TTAATAGCAT CAATCGGATG AATCATGACA GACCCTACAC ATAAACTTAT GAATATACTC   | 3720 |
|    | ACAATTAAAA GGATTGTGAT TAACTATAA CGACGTATAA TTTTCGTTGT CATCATATTC    | 3780 |
| 50 | TTTTACCCC TTAAATCGTT ATAAATAAGA AGTAAAGTGC ACCTACGAAT GATGTAACAA    | 3840 |
|    | TCCCTACTGG TGATTCATAA GGATATGTAA TTAAACGACT TAATACATCT GATAGTAGTA   | 3900 |

AGCGTTTGAC TATATGCGGT ACGATTAAGC CAACAAATCC AATTGGTCCT GCCACTGACA 4020  
 CCGACATACC TGTAAGAATA ATGACTAATA GTCCAATGAT AATTCTAACT TTATTTATAT 4080  
 TT 4082

(2) INFORMATION FOR SEQ ID NO: 262:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1145 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 262:

TATTAGAAGG TCGTTCGGAT GAACAATTAA AAAATTTAGT TAGCGAAGTA ACTGACGCCG 60  
 TAGAAAAAAC AACGGGGGCA AATAGACAAG CAATTCACGT TGTTATAGAA GAAATGAAAC 120  
 CAAACCATTA TGGTGTGGCT GGCCTAAGAA AGTCAGATCA ATAATTCTTC ATAAGATGCA 180  
 TGCCAATTAA TTCTTTGAAA ACGAACAAAG CGACTTCTAT CTGaGTATGA TAGAAATCGC 240  
 CTTGTTTATT TTTAATCTTC ATCTAAAAAG TCTTTAATAG CTTGTTTATT TGTGTTTTTA 300  
 TTAATCTGTA ATGCACTACC ATCAGTATTT GTATTGACAT CyTCGTATGA GTTCTTGATT 360  
 GGCaCAGTCA ATGACTTAAC ATCTTTTTCA CCTCGGATAC CaAAACTCAA ACCTGTTTGG 420  
 AAAATCCCTG AATCAGGAAT GTTTGTATTC ACATAGCCTC TTAAATACC TGCAACTTTT 480  
 GGTAATTTAA CAACTGTTCT AAAATTAACC ATTTCTTTTT TCAATGTTTG CATCACTTGT 540  
 TGCTGACGTC GCACGCGTCC GAAGTCACCT TCAGGGTCGT GACGGAATCT TGCATAACCA 600  
 AGTAATTCTT TACCATTCAA CCTATGGTTA CCCTTTTTCA AAGATACACC AATATTTTTT 660  
 GACATATCTT TTTCGACATT AATTGGTACA CCTTCAGGCA TTAATTCATC AATCATTTTC 720  
 TCAAATCCAG TAAATCAAC TACTGCATAA TATTCAGGAT TAATTCCTAA ATTTTTATCA 780  
 AGTGTTTTTC TAAGTAGCTC TGGACCACCT AAAGCGTATG CTGAATTAAT TTTGTGTTTT 840  
 CCATATCCTG GAATATCTGC ATAAATATCA CGCATGACAG ACATCATTTT CATCTTTTTA 900  
 TTGATAAAGT CATATTGAAC AACCATGATA GAATCTGTTC TTGATTGTCC ACCTGTGCT 960  
 TTATCTGCAC CGAGTACAAG AATAGAAATT HTACCATCAT TTTTACTGG TCCATTAAAT 1020  
 TGATGTACTT TAACATCTTT CGCATGTTTC TTGGCATATT CTACACCGCT ATTGTAACTA 1080  
 TGTACAATAT ATACAACTAA TGCCGATAAG TAAATTACA ACAATCAGAA GAATGATAGG 1140  
 1145

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 7075 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 263:

10 TATGGCTCAT CATTAAATGCA CGTATCGGGT AGCGTTTACC ATTGATAAGT GCTTCATGTT 60  
 TAGCACGAGT TCTTAAAATT CCATCGCCAT AACCGATATC AACTACAGCT AATTTTGTAT 120  
 15 TGTTTTtagt CACTTCAAAG GCAAAGCTAT AACCGCAATA ATCACCAGCT TGTACTTCGC 180  
 GCACTTGAAT AACATGTGCT TTTAAAGTTA ATGACTGAAC TATATCATGT TGATTCACTG 240  
 AACTATATGG TCTTGAACCG TATAACGCAA TACCTACACG CGCATGTGTA TGGTGGGGTA 300  
 20 GTAATayyyg TCCTTCCCGA TAAAACTCG CACTATTTTG AGCATGGATT AGGTCGAACT 360  
 GATAACCTTC AGATAAAAGT GCTTCAACAA TTTCCATCCA TTGTGAACGT TCAACATTAT 420  
 AAtCTGACAC ATCGAATTCA TCAGCATATC CAAAATGGGk CCATAAACCA CTAATAATCA 480  
 25 TTTTtGCATT TTGATTATGA TGGTGATCTT TCAATACTTC TTTAATTTTCG TTTAAATCTT 540  
 TAAATCCAGA CCGATGTAAT AAATTTTCAA ATTCTAAGTG AACATGAATA CCAGCTAAAT 600  
 CATTTTTATG GTTATAGTAA TATGTCAACG ACGGCAAAGT CATGTGTATT TGATGTTTAC 660  
 30 GGACTAAATC AAACCTCGTAA ACTGCATTCA TTAAAAAGAT TGTTGCATCT GGAGCAAGTT 720  
 GTCTAATTTG AATTGCTTCT CGTAGTGATG TTGTGCTAAA TGTATCTATA CCTGCATGGA 780  
 TAAACTGAGT TACAGCAAAT TCTAGGTCAT AGTGATATGC ATTaTTTTTta ACAACTGCCA 840  
 35 TTAATGGCTG ATTGTTTTTG ACTGTGATTG CATTTTGTAa AAATATTTTC TTATTTACAG 900  
 ACCAtGTTGC TGTCAATGTA TTACACCTCT TTGTAATTAT TTAATAAATT TTCGTAAAAA 960  
 40 TTAACCACGT TTATTAACAC TTTTTCATCA AAATTTAAAT GTGATGTGTG CAAACCAGTT 1020  
 ACAAAACCTT TATCTTCATT TCGTGTTCTT ATAAAAACAA AGTAAGCTGG AGCTAGTTGT 1080  
 TGACCATAAA AACTAAAATC TTCCCCAAAT AAGAATGGCG TTGGTTTGTC ATAGACATTT 1140  
 45 AAATCAGCTT TTATTAAGGC GTCCTCTATT TGAGTACGTA ATTTCCGACT ATTGATTGTA 1200  
 GGGGGATAAC CTTCTGCAA TTTAACTTCA CAATCTACAT TAAACAGAAG CTTGACACTT 1260  
 TCTGCTATCT TGTGCATTTG ATTTTAAACG ATTGTAAAT CATCAATATC ATATGTACGA 1320  
 50 ATAGTACCTT CTAAATAGCC ATTACTTGGT ACAGTGTTAA TCGCTTCACC AGCTTTAAAA 1380  
 TGACCAATAT GAACAATATT TCGTTTCAA CCGTTAAGGT GAAATTGTTG AATTTGTGAT 1440

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|----|---|------|
|    | ACATGACTTG ACAGGCCTGT TAAGAAAAAG CGATACTCTG TTGCGCTGGC CGTAATTTCT | 1560 |
|    | TCATCTCTTA TCACTGCAAT GCCTTCATCA GCAAATGGGT TAACATGAAT ACCAAATACC | 1620 |
| 5  | GCTTCAATTG GATACTTATC AAAGGCACCG GCTTTTATTA ATCGATTTGC ACCGCCACCA | 1680 |
|    | GTTTCTTCTG CAGGTTGGAA AATGAAAACG ACATTTTTCG GTAATTGACC TGCATCTTGC | 1740 |
|    | ATGTCTTTGC AACGTTGTAC AAAAAGCATT AATGCAGTTG TATGACCATC ATGTCCACAA | 1800 |
| 10 | GCATGCATCA CATGATCAGA TTGACTGCGA TAAGGCACAT CATTTTCCTC TAAAATAGGT | 1860 |
|    | AACGCATCAA TATCAGCTCT ATACGCTATC GTATGTGAGC CATTACCTTC TAAGTATGCA | 1920 |
| 15 | ATGACGCCAG TTTCCAATGG GCAATCGTAT TTAATATTTA AACTATCTAA AAACGCTTTA | 1980 |
|    | ATATAAGCAG TTGTTTCAAA TTCATGTAAG CTTAATTCAG GATGTTGATG TAAATGACGG | 2040 |
|    | CGATGTTTCG TAACAAATTC TAATTCATTC ATAATTATCA ATCCTTTGTG TTAAATTACT | 2100 |
| 20 | ATATAAATAG TGTAACGAT TTCGAAATTT GTGATCATAA GTTTATTCAA TGCTAAACAA  | 2160 |
|    | TAAGGTTGAG ACATAATCGT ATCTCAACCT TGAAATTATT ATACGTTGAC GTCAGTAGTC | 2220 |
|    | ATTCAGTTTT CTTAATGCTG CTACAATCTC TTTTITAGTA TCTTGTACTT CAGAAGCTTG | 2280 |
| 25 | CTTAATCACT TTTGCAGGTG TACCAGCAAC AACTGCACCA GCTGGTACAT CTTGTGTCAC | 2340 |
|    | AATCGCGCCA GCTGCAACAA TAGCACCTTT ACCAACACGT ACACCTTCTA AAATAACTGC | 2400 |
| 30 | ATTTGCACCG ATTAATACAT CATCCTCGAT TATAACCGGT GAAGCACTAG GGGGTTCAAT | 2460 |
|    | CACACCTGCT AATACTGCGC CAGCCCCATC ATGTACATTT TTACCAGTTG TAGCACGACC | 2520 |
|    | ACCGAGAGTA GCATTCATAT CAATCATTGT ACCTTCGCCA ACGACTGCGC CAATATTAAT | 2580 |
| 35 | TGTTGCGCCC ATCATAACGA CAGCACCATC TTCAATAATG GCTTGTCTC TAATAAACGC  | 2640 |
|    | ACCTGGTTCA ATTCGTGCAT TCGTATTTGT TAAGTCTTTT AATGGAATAG CAGAATTGCG | 2700 |
|    | ACGATCCATT TCAATTTCTA TATCTTCGAA TTGACTACCA TATGCTTCGT AAAAAGGTTT | 2760 |
| 40 | CCAATCATCC GCTTCACAAA AGATTACTTT AGATTGTTCT GAACCAAATA CTTTAAACT  | 2820 |
|    | TTCTGGATAT GTGATGCCTT CAAAATTACC ATTTAAATAT ACTTTTATTG GTGTAGACTT | 2880 |
|    | TTTAGCATCA CTTATATATT GAATAATTC TTCAGCTGTT AAATGTTGTA CCATAAAATA  | 2940 |
| 45 | ATCGATCTCC TTTAATATGT TTATAAGTTG TCAAACGTAT AAAAGCCGTT TGGTTTATTA | 3000 |
|    | ACTAAGCGTT CTGCTGCTG TATTGCACCA TTCGCAAAAA TATCTTTTGA TTGTGCACGA  | 3060 |
|    | TGCGTGATTT GAATCGTTTC ATCAGTGCCA GCAAATAGAA CTTCATGTTT ACCGACAATC | 3120 |
| 50 | GTACCTCCAC GAATAGAATG TATACCAATA TCTTGTGGCT GCGGTTTTTC ATTTAATTCA | 3180 |

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|----|--|------|
|    | TCGAAATCAT CAAGTAGGGG AACAGCAGCT GCTAAAATTT TAGTCAATGC ATGAACGCCA  | 3360 |
|    | TAACTCATGT TCGCGCTGAA AAACACAGGC ATATTTTGAC TCAATTCATC TAACTTATTA  | 3420 |
| 5  | AGTAGTTTTT CTTTCTCGnC CAGTgTTGCC ACAACTAATG GCAAATGAAA ATCTTCATCT  | 3480 |
|    | AATAAAGGGA AAAGCAGATT TGGATTTGAA AAATCTATTG CAACATCGGC ACCTTTAACA  | 3540 |
| 10 | TCTGCAATAT GTTGATATTG TTGATATGGC GTTGTGCTT TCGGTGTATT TTCAATGACC   | 3600 |
|    | CCAACGATTT CATGTCCTTT TTCTTCTGCT AATCTAGCAA CGCGTTGATT CATTGCGCCA  | 3660 |
|    | TAGCCAATTA GTAATATTTT CACTCATTTT CACCCGCTTT AAATGTGTCA TATGTTTCAC  | 3720 |
| 15 | GAAGCACTTT AGTATCTGTA TCTTCTAGGC TAACCAATGG TAGACGTAAT TCATAATTTT  | 3780 |
|    | CAAATCCTAA ATAACCTGTT AGAGCTTTAA TAGGAATTGG GTTAATATCA ACTGATAAAG  | 3840 |
|    | CTGATAACAG TGTGCCGATT GGTTTAAATT GATCTTGAAT ATCTAATCCA CTTTGTGAG   | 3900 |
| 20 | CATCGTATAA CGCTTGAAAT TCTTTAGGAA TGACATTGGC AATAACAGAG ATAACCCCTT  | 3960 |
|    | GACCGCCACG TTGATAGTAT TCGACGACGT TGTATCATTT GCCACTATAT AATGCAAATG  | 4020 |
|    | AATTTGTATC AATGCGCTTT TTCACCTCTT CTAAATACTC AAAATCATTC GTAGCATCTT  | 4080 |
| 25 | TTAAAGCAAC TATATAAGGA TGTTGACTTA ATATTCTAC AGTTTCTGGT TCAATTGTCA   | 4140 |
|    | TGTTTCGTTCT TGAAGGAACA TTGTACAGCA CGACTGGTAA TTTCACAGCA TCTGCAATCG | 4200 |
| 30 | CTTCAAAGTG TTTGACTAAA CCACGTTGGT TCGTTTGTGTT GTAGTAGGGC GTAATTAACA | 4260 |
|    | TAATTGCATC AGCCCCTAAG GCTTTAGCTT GGATTGAAGC TTGGATTGAC TTTTCAGTAT  | 4320 |
|    | CATTAGTGCC AGTTCCTGCT ATGACAGGAA CACGTTTATC TACAAGATCA ATAACGTGTT  | 4380 |
| 35 | TTAGAATGCG TTCTTTTTCA TCTGTTGTTA AAGTAGGGCT CTCAGCAGTA GTTCCATTAA  | 4440 |
|    | CGATGATTGC TTGGGCATTA TTTTCTAGTA AAAAATTAAC GTGTGTTTTT AAAGCTTCAA  | 4500 |
|    | TATTAACCTT GTTATTTGTA AAAGGGGTG TAAGTGCaAC sCCAACACCC TCAAATAAAT   | 4560 |
| 40 | GTGTCATTTT AATTCGCTCC TTTTAAACGC ATAACCTGTT CCAATACTTG TACAGCATTT  | 4620 |
|    | AATGCAGCAC CTTTTAATAA ATTGTCTGAT GTACACCATA CATGGAAAGT ATTTTCTAAT  | 4680 |
| 45 | GAATCATCTC TACGTATACG GCCAACAAAC ACTTCATCTT TATTAGTAGA ATTGATTGCC  | 4740 |
|    | ATTGGATATT CATTGTTCTC TGGATTGTCT ACTAAAACAA CGCGGTCATC TTGATCAAAT  | 4800 |
|    | AACGCTTTAA TATCTTCTGC TGTTGTTTCT TTGTCAAGCG TTACATCAAT TTCAACACTA  | 4860 |
| 50 | TGACTATCTT GAACAGGCAC ACGTGCGCAT GTTGCTGTTA CTTTTAAGTC TGGCGCATTT  | 4920 |
|    | AAAATTTTTT TCGTCTCATC AATCATTTTT TGTTCTTCTT TTGTATATCC GTTTTCTAAA  | 4980 |
| 55 | AACACATCAA TATGCGGTAA CACATTATTA TAAATTGGAT GTGGATATGC TTCTGGTGCT  | 5040 |

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|----|---|------|
|    | TGATATGTTG TATATGCCAC TCGTTTTAAA CCATAAGCAT CTTGCAATAC TTTTAGAGGT | 5160 |
|    | ACAACAGATT GAATCGTAGA GCAGTTTGA TTGGCAATGA TACCTCTTGT AAATGTAGGT  | 5220 |
| 5  | TCATTGACTT CCGGAACGAT TAAATCAATA TCTTCTGCCA TACGCCATTG ACTTGAATTG | 5280 |
|    | TCTATAACGA TTGCACCAGC TTTTTCAAAA AGTGGGGCAA AGTGTTTCGT TGTACCGCCA | 5340 |
| 10 | CCAGCACTCA TTAATACATA ATCGAAATGT TCACTTGAC GAGCATCAGT TAATTCTTGA  | 5400 |
|    | ACTGTATATG TTTTTCCTTG AAATTCAACT TCTTGCCCTG CAGAACGTGC TGATGAAAAT | 5460 |
|    | AATACTAATT CATCGAAAGG AATATTTTTA CGATTTAATG TCTCCAACAT TTTTGTACCT | 5520 |
| 15 | ACTAATCCTG TTGCACCCAC AACTGCTAAC TTTGTCATAA CTTGTCACTC CATTTTATAA | 5580 |
|    | TAATTTCCaA TTTTLAGAAT ATTTTAACAA TCATTTTACC ATTAAATGTT AAATGCGTCA | 5640 |
|    | TATAGTTTTT CTACCGCTTG TTGCCCATTA AAATCATCAA TGACGTATGA AATACTTATT | 5700 |
| 20 | TCAGATGTTG TTGTTTGGTA GAAAGGTATA TTATTTTCAA TTAATGTCAA AAATGCTTTT | 5760 |
|    | GATGCCACAC CTGACATATC ACGCATGCCT GAGCCAATTA ATGAAATTTT GACATAATGC | 5820 |
|    | TCATTGATTT TATAAGCTAA TGCTTCATAT TGATTCTTTA ATGTTTCAAG AATCATAGAA | 5880 |
| 25 | ATTTGATGAA AATCACTATC TTTAATCGTG AAGGATAGTT GTAGCCCATC CAAGTTGACG | 5940 |
|    | ATTTGTGAAA TCATATCAAC ATTTACAGCA CCTTCTTCAA GTTCCGTAAA TAGTTGGGTA | 6000 |
| 30 | AGTAGCTGAT TGTCAGGTAG GGGATAACTA ATTGTTACAT GCATCATATG TTTATCCAAA | 6060 |
|    | GCCACACCAG TAACTGCTTT TTTCTCTAAT ATTTCTTCAT TTGACATAAT CCATGTTTCT | 6120 |
|    | TTACGTTTCG ATAAAGTTTT TCCTAAATAT AAAGGGATAT TATAGTTTTT AGCTAATTCA | 6180 |
| 35 | ACACTTCTTG TTTCAAGTAC ACCAGCACCT AAAGCGCTCA TTTCCATCAT TTCTTCATAT | 6240 |
|    | GAGACGATGT CTAGTCGTTT AGCCTTTGGT AAAAGTCTTG GGTCAGTGGC ATACACACCA | 6300 |
|    | TCAACGTCGG TATAAATTTT ACAAGGTATT TGATTACTAA CAGCAAGTGC CACAGCGGTC | 6360 |
| 40 | GTATCAGAAC CACCTCTGCC TAAAGTTGTT AATTCCTGAT GTTCATTGAT GCCTTGAAAT | 6420 |
|    | CCAGCAACTA CTAAAATATC GTTTTCTTGA AAGGCTTGTT CAAATGTTTG AGGATTAATT | 6480 |
|    | TGAGCAATTT TACTTTTTAA ATGATGGCCA ATGGTTTTAA TACCCGCTTG ATAGCCAGTC | 6540 |
| 45 | ATTGCTTTGG CATTCATACC GATATCATTT AATACCATTG ATAAATAAGA TACAGTTTGT | 6600 |
|    | TGCTCTCCGG TTGTCAATAA TAATGCCAGT TCTTGTTGTT TTGGTGCTTT AGTCAAGGTT | 6660 |
| 50 | GATACATTCG TCATTAATTG ATCTGTTGTG TTACCCATAG CACTTACAAC GACAATTAAa | 6720 |
|    | TTGTTTATCT TGATTGACTC GCTCCTTTAA CATTTGAGG ATCCTTTTTTA TTTTGTAAA  | 6780 |
|    | TTGTTTATCT TGATTGACTC GCTCCTTTAA CATTTGAGG ATCCTTTTTTA TTTTGTAAA  | 6840 |

TAATCTATAT ACAAGTGATG CACTCCATTA TTTTAAATA ATGACAAACT CTCAGCTCTT 6960  
 AACCAAAAAG TCCAACAAAT TATAACTGCT ATTATAATTG CTTCGGCATC GCACCCTTTC 7020  
 5 AAATTTAGCT GTTAGCAGAC AGTAATCTAA ACTTTACTCA TGATTGATGC GCCTC 7075

(2) INFORMATION FOR SEQ ID NO: 264:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5171 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 264:

AGACGTACTT TGTGATTmCG AAGyrCGTAC TGmAGCACTT GTCGACGTTG ATGTACTTGT 60  
 20 TGAACCTGAT TGACTAGTAC TTTGTGATAA TGACTTACTA TCAGAATCAG ATGTACTTTG 120  
 TGAATCACTT AATGATTCTG ATGTACTACC TGACTGAGAC GTGCTCATTG AACTACTTAC 180  
 GGACATTGAT TTA CTGTCTG ATGCAGATAA TGACCCACTT GTACTGATAG AGTCACTTAC 240  
 25 TATCTCTGAA GTACTCATCG AGTCTGATGT ACTTGTTGAG ACACTTTGTG ATGCTGCTAT 300  
 GCTTAGTGAT CCAGAAACAG AACCACCTGT GCTCGTCGAA TCGCTCAATG ATTCTGATGT 360  
 ACTCATCGAT TTTGAATCAC TTGTACTTAA TGATATTGAT GTACTTTGTG AATCTGATTT 420  
 30 GCTTGTTGAC GCACTTTGAG AGTTGGCTAT GCTATTTGAA ATACTGATAG AGTCCGAGGT 480  
 GCTAGCTGAC TCGCTCAATG ATGTTGATGT ACTAATTGCA TTCGATGTAC TGTCACTTAA 540  
 35 TGATGCTGAT GTACTAGACG ACCCTGATAT ACTCGTTGAT AAGCTTTGTG ACTTAGACAA 600  
 GCTTCCTGAT GTACTCATAC TTAATGAGTC ACTGAGTGAT GTTGATGTAC GCAATGAATC 660  
 AGATGACTT GTTGATAGAC TTTCGGATTT TTCAGTACTG CTAGAGTTTG AAATAGAATC 720  
 40 GCTTAATGAT GTTGATTAC TAGCTGAATC CGACATGCTT GATGATACAC TTTGTGAATT 780  
 CACTAAACTT GTGCTTGTG AGCTTGATAC ACTATTACTT TCAGATGTGC TTAATGACTT 840  
 AGATGCACTC ACAGAATCAG ATAGGCTTAC ACTTGTCGAT TTCGAGGTAC TAGCTGATGT 900  
 45 AGATACCACA ATCGATCCTG ATGTACTCGT TGATGCACCT TGTGAGTCAG CTTTACTTGT 960  
 TGACACACTT TGAGATTGTT GTGTACTTCC TGATGTTGAT ACGGAATCAC TCATGCTATT 1020  
 TCTTGTTACT TCATATTTAA AAGTTGTCGT CGTTTTGTTA CCGCTCGCAT CTGTAGAAAC 1080  
 50 GATTGATATA GTACTTGATC CAATGTTTGT TGGTGTACCA CTAATAGTAT TATTTGTACT 1140  
 ATCAAATGTT AGTCCGGATG GCAATCCAGT CACTGTATTC GTCACCGCAT TTCCACTGTT 1200

|    |             |            |            |             |            |             |      |
|----|-------------|------------|------------|-------------|------------|-------------|------|
|    | ATTGGTGTCA  | CTGTTGGTGC | TGTCGTATCC | ACAACATTTA  | TTGTAAAAGT | TGTCGTGCGAT | 1320 |
|    | TTGTTATTTG  | CTTGGTCAGT | AGACACAAC  | GTCACGTGTG  | ATTGACCAAT | TTTTGTTGGT  | 1380 |
| 5  | GTCCCAATGA  | TTGAATTCGT | TGCACTATCG | TAACCTAATC  | CGCTTGGTAA | TCCTGTAACT  | 1440 |
|    | GTATTTGTCA  | CAGTCCCAGT | ACCATTATCC | GTTGTAGTCA  | ATACAATAGG | ATTCATTGTT  | 1500 |
| 10 | TTACCCACTT  | CTATGGTTTG | ATTGCCTACA | GTTACAGTTG  | GTGCTTTTAC | ATCAGTAAAA  | 1560 |
|    | TAATATGTCA  | CTGATTGTCC | AGCATTGCTC | ATTTTTACAG  | TTTTATTTGT | ATCATTATAA  | 1620 |
|    | GTTGACGCAT  | ATGAACTATC | GACGGACGTG | TAGTTATATC  | CTTTAGCAGT | CAATGCAGAT  | 1680 |
| 15 | TGCTGaTTAT  | CGATTGTCAC | GACTTGATCA | ACATTTCTTG  | AATATGTTTT | TGGTGGAATA  | 1740 |
|    | ATATCTTTAC  | CTGTTGTTAC | ATCAACGTAT | CTCACTTGTT  | TAnCAGCAGA | CTCTGTATAT  | 1800 |
|    | TCGAATGTTT  | CAAATTGTAC | TTGTTGTAAA | TTTGTCGCGC  | CACCTGTTGA | GGCTGTCATT  | 1860 |
| 20 | GATAATGAAA  | AGTTGGTCGT | ACCACTTTTC | GCAATCCAAT  | CTGAAATATT | ACGTGTCCAT  | 1920 |
|    | GTTTGACCTG  | CATATTTGAC | AGTCATAACC | TTTGATATCAC | CATTATAGTT | AATATCAAAA  | 1980 |
|    | TCTTGGAaCG  | TGTTATTTGT | AGGTTGaACA | TTTAACCTCG  | CAGCATTATC | AGCTGTTGAA  | 2040 |
| 25 | CTTGATGTAT  | ACGTTGTGCG | AACACCATAA | CTATCTGTTG  | TTACAAATGC | ACCAAACGCA  | 2100 |
|    | CCTCCACCAG  | CTACATTAGA | TGGGTCAGCA | TTGCGCTTTG  | CAGCTGAATT | TGGTTTAGAT  | 2160 |
| 30 | GTATTGTGAT  | ACGTATCCAA | TTTGAAGCCA | AATGCGTTAC  | TTAAGCCACC | AATACCTACT  | 2220 |
|    | GCGGCACCGT  | TTAACCCTGT | TTACCTAAT  | ACACCTGGTG  | AAAAGGCAAA | ACCGATACCA  | 2280 |
|    | TCTCCACCAT  | TTCCATGCCC | TTCATATTTG | TTACCTAAAT  | TTACTTTTCC | AGAAAAATGA  | 2340 |
| 35 | AAACTCTTAT  | TAGAGTCAAT | ACGTGTTTCT | AATGTAATAG  | CACCTTTTTG | GCTGTATGCA  | 2400 |
|    | TCCTGTGTTA  | ACGTCACAAT | ACCGGTACTT | TGATCATAGG  | TAGCATTACC | TGACGTTGTC  | 2460 |
|    | ATATATTTGTT | TTAAGTTATC | TTTATTAACT | GTAATTGTAT  | TAGCAGTTAC | TGCGGTTGTC  | 2520 |
| 40 | GTCgCTGctG  | ACGCAAATGT | TGACATAGCT | AAGCGACTGA  | AAGTTCGAAG | TTTTACTGGT  | 2580 |
|    | GCGGTGCTAG  | TTGACGTTGT | GCTAGTTTTG | TTTAAGTTGA  | CCGAAGATGG | CGTTGTGCTT  | 2640 |
|    | TGTGAAGTGT  | TATTTGATGC | AGTACTTTGA | TTTGTTGATG  | TATTAATTGG | TTGTTCTGTA  | 2700 |
| 45 | CTTGAAGTTG  | AAGCTACAGA | TTTAGTATCA | GAACCTGATG  | TAGTATTCTT | TGAGGATGTT  | 2760 |
|    | GATTCTGATG  | TAGATGTCAA | TTTCTCTTGT | TGATTGCTTG  | TACTATTAGT | TGTCGAAGTG  | 2820 |
| 50 | ACCTTTTCAG  | ACTTTTCACT | TGAGACTGTG | TCACTATTTG  | ATGTTTGTAC | CGAACTACTA  | 2880 |
|    | TTTtTCGTTA  | CACTTGTGGA | ATCGGCTGTT | GATGTTGATG  | CTTCGATTGT | CGTTGAGTTT  | 2940 |
|    |             |            |            |             |            |             | 3000 |

|    |            |             |             |             |            |            |      |
|----|------------|-------------|-------------|-------------|------------|------------|------|
|    | GTTCAGTC   | CGTATCCCGT  | CATTTTTTTTA | CTAATGCTTT  | GATTATCTTG | ACTCACTAAA | 3120 |
|    | CTATGACTAA | TAAATGGTAG  | CCCCATAATT  | TTGAACATTT  | CTATTTCTTT | AATTCCGGAT | 3180 |
| 5  | TTTACCCAAT | TTTTTCCAGA  | TTTATAAAGT  | CTTACTCTTG  | TTTTTTCGTT | TGCTAAGCTG | 3240 |
|    | TCATGAAATG | CTTTCTGTCT  | TTTACTCATG  | TAATAACTCC  | TTGTATTATC | TTTACATTCA | 3300 |
| 10 | TTAGATTATA | ATATATGCCA  | CTATTCAATT  | TAATACAACT  | CTTTTTTGAT | ACAAAAATAC | 3360 |
|    | TCATTTTGTT | AAAATTTGTA  | AAAATTCaTT  | TTTATTCGTC  | TAAATGTAAT | CGTTTTCATA | 3420 |
|    | TTTTTAAAT  | TACTTTTTCT  | CGTTTATGCG  | TATAATCTTT  | TTTTATATAA | ATTTGGCTAA | 3480 |
| 15 | TTGGCTTTAT | GTTTAATCAT  | TATAATTGTT  | TCGTTTTTAA  | AATAATTATT | GTATTAATAT | 3540 |
|    | ATCTATACCA | TCCACCTTTT  | ATTTATAAAT  | AGTTAATTIA  | CAACTAAACG | ATAAATATTA | 3600 |
|    | TATGCAAAAT | ACATCTTTAA  | TATTAAAGTA  | ATACCAATAT  | TTTTTCAATA | AACCTAGTGT | 3660 |
| 20 | AATATATGTG | TAATTCTAAA  | AGATTCTTCT  | TTAAAAATAT  | AAATACCACG | ACATATTGCT | 3720 |
|    | TTAACATTTT | CATTTATAAA  | GCGAAAAAAT  | GCATCGCTAC  | TAAGTTGAAT | GTTTAGTAAG | 3780 |
|    | GATGCATTGA | ATTCACTAAA  | ATGATTAAAT  | TACTTATATC  | TTTTCATCTG | ATTGATTATC | 3840 |
| 25 | GAAATTTCTT | CCTTCTAAAC  | CTGCTAACTC  | TTCTTTAGAA  | GCTGCAGGTG | CTTTCATTTT | 3900 |
|    | AAATATCTCA | TTCACTACTG  | TGTAATCGTA  | ATATCCTAAT  | CTGGCAATAG | GTTTAATCGA | 3960 |
| 30 | CTTAATGTCC | AATTTACCAT  | TATCAAGAAT  | AACCTTATCG  | TCAATATGAA | CTTGGGCAAC | 4020 |
|    | TCTTCCTATA | ACAATATCTA  | CGGTAGATAC  | TGGATCTCCA  | GTTGGAATAC | GAATCGTTTG | 4080 |
|    | AACGTACTCA | CATTCAAAAT  | GAACGGCGA   | TTCTTTTACA  | CGATATCCTG | GAGCTTCTAT | 4140 |
| 35 | ACATTTTTCC | TTTGTTACAC  | CTGCAAAATT  | AAATTCATCC  | TCTTCTGGTG | GCAATGCTTT | 4200 |
|    | CGATGATAAA | TTAACTGCTT  | CTCTTAAATC  | ATACGTTGCC  | ATATTCCACA | CAAACCAACC | 4260 |
|    | TGTCTCTTCA | GCATTTTTTCA | CTGTATCTTT  | ACGTTTCGTGA | TCACCAAGAA | CGGATTGATT | 4320 |
| 40 | TGCTGCGAAC | ATAACCATAG  | GCGGATCCCA  | AGTTAAGTTT  | TGATACTGAC | TATAAGGCGC | 4380 |
|    | TAAATTATCT | TTCCCATCTT  | TCGATACAGT  | AGAGATCCAC  | CCTATTGGAC | GTGGTACTGT | 4440 |
|    | ACTACTTTTA | AATGGGTCGT  | GCGGTAAACC  | ATGACTTCTT  | ACACCTTGTT | TTGGCGAATA | 4500 |
| 45 | ATTCATACTA | TCTTCACCCC  | TTATAAGTAA  | TTACATTTAA  | GGTTACGCCC | TCTTTACATA | 4560 |
|    | AGCGTCTAAT | ATAAATAAAC  | AATTTATTTA  | TAAGTAGAAA  | CTATATATGA | CGTGGTTGCT | 4620 |
| 50 | TATAATTTGC | GTTCTTGATT  | CGAAAAATTC  | AGATAAGGAT  | TTATACAATT | AATATTTATG | 4680 |
|    | ATATCTTTTG | TAAATTTAAT  | TAATTATAGT  | TACTTCAATC  | ATGATTAGTT | TATAATAATA | 4740 |
|    | AAGTGAAATT | GAAAAAGACA  | GCTATTATGC  | GATGAGCGAA  | AAACTTCAAG | TAAAACAAGA | 4800 |

|    |   |      |
|----|---|------|
|    | TAAGTTCAAA AAAGAATTCA AACCTGTTAT GCACTTAAAA GGTGATGCAT TCAATCAACA | 4920 |
|    | GTTACAATCT TTGATTAACA AATATCCACA AATACAAAAA AATATGAAAT CAGAGTTCAT | 4980 |
| 5  | TGCTTATTAT GATAAAGAAA AAAATAGAGA AACAGTAAAA AACTATGCTT GGAACCTTCA | 5040 |
|    | AAAACTATA AATGACATTA TGCAATCATA TCCTAGCACA AAATTTGTAC AGTTTATAA   | 5100 |
| 10 | AAGATGATGT TTCCCCGTCA ATGGTAGATG GAAATGGCCG TTTAAAATCG GGATACTAAT | 5160 |
|    | GTATTTCCAT C  | 5171 |

## (2) INFORMATION FOR SEQ ID NO: 265:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3589 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 265:

|    |   |      |
|----|---|------|
|    | CTACACACTA AACCTATTTT AGTTATGGGT GGTACAGTGA TTCTCTTTT ATTTTTAATA  | 60   |
| 25 | GGTATTTGGA TTGGTCATCC TATTGAAACA GAAATCAAAC CACTTATTAT TGGTGCGATT | 120  |
|    | ATTATGTACG TACTTGGGCT TGTAGATGAT ATCTACGATT TGAAACCGTA TATAAAATTG | 180  |
| 30 | GCTGGTCAAA TTGCCGCTGC CTTAGTAGTT GCTTTTTATG GTGTGACTAT TGATTTTATT | 240  |
|    | TCGTTGCCAA TGGGTACAAC GATTCATTTT GGATTTCTTA GTATTCCAAT TACTGTGATT | 300  |
|    | TGGATTGTTG CTATTACAAA TGCAATTAAC TTAATTGATG GACTCGATGG TTGGCGTCG  | 360  |
| 35 | GGTGTTTCKG CAATCGGACT CATTACAATA GGGTTCATTG CAATTTTACA AGCTAATATT | 420  |
|    | TTCATAACGA TGATTTGTTG TGTTTTATTA GGCTCTTTAA TTGGGTTTTT ATTTTACAAT | 480  |
|    | TTCCATCCTG CCAAAATATT TTTAGGTGAT AGTGGGGCTT TAATGATTGG ATTTATCATC | 540  |
| 40 | GGATTCCTTT CTTTACTCGG ATTCAAAAAT ATTACAATTA TTGCATTGTT CTTCCCAATT | 600  |
|    | GTTATCTTAG CAGTTCCATT CATTGATACT TTGTTGCAA TGATTCGACG TGTGAAAAAA  | 660  |
|    | GGGCAGCATA TAATGCAAGC TGATAAATCG CATTTGCATC ATAAACTATT AGCTTTAGGC | 720  |
| 45 | TACACACATA GACAAACAGT ATTATTAATC TATTCAATCT CTATTTTATT TAGTCTTTCG | 780  |
|    | AGCATTATTT TGTATGTATC GCCACCATTA GGTGTTGTAT TAATGTTTGT ATTAATCATA | 840  |
| 50 | TTTAGTATTG AATTAATTGT TGAATTTACA GGATTAATAG ATAACAACTA CCGACCAATA | 900  |
|    | TTAAATTTAA TTAGTCGTAA GTCATCTCAT AAAGAGGAAT AGGGAATGAA AGCATAGCTG | 960  |
|    | TTAAATTTAA TTAGTCGTAA GTCATCTCAT AAAGAGGAAT AGGGAATGAA AGCATAGCTG | 1020 |

|    |  |      |
|----|--|------|
|    | ATTTACCGTC TTATGATAGT GCTTTTATT TTTATTCAGT TGGTATATCG AAAGGTAAC    | 1140 |
|    | GCTTTGGAGT TTCTTCAGTC AAATCGAAAT TTCCTGCAGT CATTTGATTT AAAAAGTTAA  | 1200 |
| 5  | TAAACGCTTC ATAGTCACTT TTAACGACAT CGATATAGTA GCTTACCTTA TCAGTGTAAG  | 1260 |
|    | TTTGGTTTCT TAACATAAAA TGAGTTGAAG CTAATTCATA TTCAAATTTA CCAGTTTGAT  | 1320 |
| 10 | CATAATTCAG TGTTACTATA CATGGTACTG CTTCTCGTAG TTCGACACGC CCGATATCAT  | 1380 |
|    | AAATGACGTC TCTAACAGCA CCGCTATAGG CGCGAATTAA ACCGCCACCA CCTAATTTAA  | 1440 |
|    | TACCACCAAA ATATCTTGTT ACTACGACAC ACGCATTATG aACATCGrGC TTTTTTaATA  | 1500 |
| 15 | TGTCTAACAT TGGGaCACCG GcAGTTCCtG TCGGTTcACC ATCATCATTC GChTTTTGAA  | 1560 |
|    | TATTCATTtC AGGTCCAATA GTATATGCAG AACAAATTATG AGTGGCATCT TTATGTTCTT | 1620 |
|    | TTTTTATTGC AGCAATAAAT GCTTTaGCTT CATCTTCATT TTGAACAGGT TTGATATGAG  | 1680 |
| 20 | CAATGAATCT TGATTTACTA ATCACATTTT CAATAATGTG TTCTTTTTTA ACAGTAATGA  | 1740 |
|    | TATTTTGTGT CATAATAACT CCTTAATTCA TAAGCTTAAG ATTATTTAAT CTTCATTATA  | 1800 |
|    | CACTGAAAAT GACATGACTA TAAATCGTTT GATTGCCATT TTCTTTTTAA CTGAAATATT  | 1860 |
| 25 | GTATCATTGC TATGAGTATA TTTTAGGAGG ACGACTATGA AAATGCTGT GATGACCGAT   | 1920 |
|    | TCTACAAGTT ATCTGTCGCA GGACTTAATC GATAAATATA ATATTcAAAT AGCGCCATTA  | 1980 |
|    | AGTGTGACTT TTGAAGATGG CAAGATTATA CCAGAAGAAA AAGTTCGTAC TAAAAAGCGT  | 2040 |
| 30 | GCCATTCAAA CATTAGAAAA GAAAGTATTA GATATTGTAA AAGACTTTGA AGAAGTAACT  | 2100 |
|    | TTATTTGTCA TAAATGGAGA TCATTTCGAA GATGGTCAAG CGTTATACAA AAAGTTACAA  | 2160 |
| 35 | GATGATTGTC CTTcAGCTTA TCAAGTAGCA TACTCTGAGT TTGGTCCAGT TGTTGCAGCA  | 2220 |
|    | CATTTAGGTT CTGGTGGATT AGGTTTAGGC TATGTTGGCA GAAAAATAAG ATTAACATAA  | 2280 |
|    | TTATaAAaTT TTAATAAAAG AGTCTATATT GTAATTGGAA ATTATCTCTC GTATACATGG  | 2340 |
| 40 | CTTTAAATGT TCATCATTTG AAAGCCAAAA TGCTAAAGAT ATAAGAAAAT CATTATAATA  | 2400 |
|    | TTAGGCTCTT TTTTACGTTG AAATGAGGTT TTAAGCATTa AACATTACGG GAAATTAATT  | 2460 |
|    | CATCCTCATA CTTCACTTAC TAATGAAAAA ATTAAAAAAG AAGTAACAGG TGTCATCAAA  | 2520 |
| 45 | CAAAATTCAA ACTATTATTG TGTTCaATGT GAAAGTACAA ATCCAAAGCA TTTTtATCAG  | 2580 |
|    | TATGATTcCT CAGTACATTc CAAGAAAATT GTATATTGCA GAAATTGTAT ATCACTGGGT  | 2640 |
|    | CGAATGGATA ATGTAACAAG ATATAAAATA ACAGAGAGTT CGCAAAGTTC ATCACAAGCA  | 2700 |
| 50 | TATTATCATC TCTCATTTGA ATTGTCGGAA CAGCAGTCTT ATGCCTCAGA ACATATTGTT  | 2760 |
|    | CGAGCCATTA GAAAGAGACA AACGATTTTG TTATATGCCG TAACAGGTGC AGGTAAGACA  | 2820 |

|    |  |      |
|----|--|------|
|    | TCACCACGTG TAGATGTTGT TGTAGAAATT AGTAAACGTA TTAAAGACGC ATTTCTTAAT  | 2940 |
|    | GAAGATATAG ACATACTACA CCAGCAATCA AGACAACAAT TTGAAGGGCA TTTTGTGTGA  | 3000 |
| 5  | TGCACAGTGC ATCAACTTTA CCGATTCAAA CAGCACTTTG ATACTATTTT TATTGATGAA  | 3060 |
|    | GTCCGATGCCT TTCCTTTATC AATGGATAAA AATTTACAAC AAGCATTGAA GTCATCTTCT | 3120 |
|    | AAAGTTGAAC ATGCAACAAT TTATATGACA GCAACACCAC CGAAACAAC TCTGTCAGAG   | 3180 |
| 10 | ATCCCCCAG AAAATATAAT TAAATTGCCA GCTCGTTTC ATAAAAATC ACTTCCAGTT     | 3240 |
|    | CCTAAATATC GTTATTTCAA ACTTAATAAT AAGAAGATTC AGAAAATGTT ATACCGAATT  | 3300 |
|    | TTACAAGATC AAATTAATAA TCAACGTTAT ACACTGGTGT TTTTAAACA TATAGAAACA   | 3360 |
| 15 | ATGATTAAAA CATTTTCGGT TTATAAGCAG AAAATTACTA AATTAACATA CGTCCATAGC  | 3420 |
|    | GAGGATGTTT TTCGCTTTGA AAAAGTTGAA CAATTAAGGA ATGGACATTT CGATGTCATT  | 3480 |
| 20 | TTTACTACGA CAATATTAGA ACGTGGATTT ACAATGGCAA ATTTGGATGT TGTGTTATC   | 3540 |
|    | GATGCACATC AATATACTCA AGAGGCTTTA ATACAAATTG CTGGACGTG              | 3589 |

(2) INFORMATION FOR SEQ ID NO: 266:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1017 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 266:

|    |   |     |
|----|---|-----|
|    | TTTCCAAGAA GGcTTgAAAA AtGTTwCaAG TGGTGCgAmC CCAGTTGGTT TACGACAAGG | 60  |
| 35 | TATCGACAAA GCAGTTAAAG TTGCTGTTGA AGCGTTACAT GAAAATTCTC AAAAAGTTGA | 120 |
|    | AAATAAAAAT GAAATTGCGC AAGTAGGTGC GATTTcAGCA GCAGATGAAG AAATTGGACG | 180 |
| 40 | TTATATTTCT GAAGCTATGG AAAAAGTAGG TAACGATGGT GTCATTACAA TTGAAGAATC | 240 |
|    | AAATGGACTA AACACTGAAC TAGAAGTGGT TGAAGGTATG CAATTTGATC GTGGTTATCA | 300 |
|    | ATCACCGTAT ATGGTTACTG ATTCAGATAA AATGGTTGCT GAATTAGAAC GCCCATACAT | 360 |
| 45 | TTTAGTAACA GATAAGAAAA TCTCGTCTTT CCAAGATATC TTACCTTTAT TAGAACAAGT | 420 |
|    | GGTTCAATCT AATCGTCCAA TCTTAATTGT AGCTGATGAA GTTGAAGGCG ATGCATTAAC | 480 |
|    | AAATATCGTG CTAAACCGTA TCGTGCCAC ATTTACAGCT GTTGcAGTAA AAGCACCTGG  | 540 |
| 50 | TTTTGGTGAT CGTAGAAAAG CGATGCTTGA AGATTTAGCT ATTTTAACTG GTGCGCAAGT | 600 |
|    | AGATGTCATCA ATTGATATGT TAGGTACTGC                                 | 660 |

|    |   |      |
|----|---|------|
|    | CAGCATTGAT GCACGTGTTA GCCAATTGAA ATCTCAAATT GAAGAACTG AATCTGACTT  | 780  |
|    | TGATCGTGAA AAATTACAAG AGCGCTTAGC TAAATTAGCA GGTGGTGTTG CAGTTATCAA | 840  |
| 5  | AgTAgGTGCA GCAAGTGAAA CAGAGCTTAA AGAACGTAAA TTACGTATTG AAGATGCATT | 900  |
|    | AAATTCTACA CGTGCAGCAG TTGAAGAAGG TATTGTTGCA GGTGGTGGTA CTGCATTAGT | 960  |
| 10 | AAATGTTTAC CAAAAAGTAA GTGAAATTGA AGCTGAAGGT GACATTGAAA CAGGTGT    | 1017 |

(2) INFORMATION FOR SEQ ID NO: 267:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1409 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 267:

|    |  |      |
|----|--|------|
| 20 | TTAATCCAGC GTTAACTGTA TTTGCATTTA TTATGATTAT TTCGATTCTT TTAGCGTATG  | 60   |
|    | TATTTAAATG GCTTGGATTA GTGGATGATG TGTTATTAAT GGTCAATTATC ATTTCAACTA | 120  |
| 25 | TTTCCTTAGG CGTAGTTGTT CCAACTTTAA AAGAAATGAA TATTATGAGA ACAACTATAG  | 180  |
|    | GGCAATTTAT CCTATTAGTA GCAGTACTTG CGGACTTAGT AACTATGATT TTATTAACGG  | 240  |
| 30 | TCTATGGCGC AATCAATGGT CAAGGCGGCA GTACAATATG GTTAATAGGT ATATTAGTTG  | 300  |
|    | TTTTCACAGC AATTTTCATAT ATTTTAGGTG TTCAATTTAA AAGAATGTCA TTTTACAAA  | 360  |
|    | AATTGATGGA TGGTACGACG CAAATCGGTA TTCGTGCGGT ATTTGCATTA ATAATATTAT  | 420  |
| 35 | TAGTAGCCCT AGCAGAGGGA GTTGGCGCAG AAAATATATT AGGTGCATTC TTAGCAGGTG  | 480  |
|    | TCGTTGTTTC ATTATTAAAT CCAGATGAAG AAATGGTTGA AAAGTTAGAC TCATTTGGTT  | 540  |
|    | ATGGGTTCTT TATTCCTATT TTCTTTATAA TGGnTGGTGT AGATTTAAAC ATACCTTCAT  | 600  |
| 40 | TAATTAAAGA ACCGAAATTA CTAATTATCA TACCGATTTT AATCGTnGCA TTTATCATTT  | 660  |
|    | CAAAATTAAT TCCAGTCATG TTTATTCGAC GTTGGTTTGA TATGAAAACA ACGATTGCAT  | 720  |
|    | CAGCATTTTT ATTAACATCA ACATTATCGC TCGTGATAGC TGCAGCCAAA ATTTACAGAAA | 780  |
| 45 | GATTAAATGC TATTTTCAGCT GAAACGTCAG GTATATTAAT TTTAAGCGCA GTCATTACAT | 840  |
|    | GTGTATTTCG TCCGATTATT TTCAAAAAAC TGTTTCCAGT TCCAGATGAG TTTAACCGTA  | 900  |
|    | AAATTGAAGT TAGTTTAATT GGTAAAAATC AATTAACGAT TCCTATAGCG CAAAATTTAA  | 960  |
| 50 | CATCTCAGTT ATATGACGTG ACATTATATT ATCGCAAAGA CTTGAGTGAT CGTCGTCAAT  | 1020 |
|    | TGTCAGATGA TATCACGATG ATAGAAATTG CTGATTATGA ACAAGATGTT TTAGAACGAC  | 1080 |

AAGTTGCTAA ATTAGCCAAA GCACATCAAG TTGAGCGTGT CATTTCAGAG CTTGAAAGCA 1200  
 CAACGGACGA TACAGAGTTA GTTGATTCAG GTATTGAAAT TTTCAGTAGC TACTTAAGTA 1260  
 5 ATAAAATCTT ATTTAAAGGT TTAATTGAAA CACCTAACAT GTTGAATTTA TTAAGTAATG 1320  
 TTGAAACGTC ACTATATGAA ATTCAAATGT TAAATTATAA ATATGAAAAT ATTCAATTAC 1380  
 GTAATTTCCC ATTCGGAGGA GACATCATC 1409

10 (2) INFORMATION FOR SEQ ID NO: 268:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 4702 base pairs  
 (B) TYPE: nucleic acid  
 15 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 268:

20 AAAGAGGGTT TTTTACTACT ATAATCCATC CTTTAATGGA ATTCCATTG TCCCTTTGGC 60  
 CCGTTCATAA CCATAGGAAA ATATATGCnG nAATCATTGA TAGTAAATAC ATCAATAATA 120  
 25 CGAATAATGT CGGTGAAATC ACGTCCGTAT TACCATTATT AGCTAAAACA TTTTCCAAGT 180  
 TTTCTTTTGA ACCGGATACT CATAAATGCT TTTAATGCnT GGTTTTGTCT GTCGCCATCT 240  
 TTAGAATTTG TAATACTTTT TTAAATCTT TAGCGAACAA CTCATTATCT TTATCGTTTT 300  
 30 TAGCCATTTG ACGATTCAAA TCGTTAGCTC TTACGCCTAA TGCTCGACCT GTCGCATGTA 360  
 GCTTATTCAC ATTATTGTCG ACTTGATTGA ATTGGCCACT AACAGAATCT GCAATTGATT 420  
 TTGATTCTTG TGTATCTGAT AGCAATTGCG TACTCTTTTC AGAAATTCTA CTAATTTCTT 480  
 35 TATCTAAATT TGAAGACATC GTATTAAATT CATCATTTTT GCCTTTATCA ATTTTTGGTT 540  
 CTGTGGCTC TTCAGCAAAA GTCTTTTTAA CGTTTTCTAA CTGATCAATC AGCTTGAAA 600  
 TATCTTCTTk ATTTTTTGTT gTATTCTTTT TGTTATTTAA AATGTCATCA ATCAGTTTGT 660  
 40 CTGAGTTTTT TTCCATTGAA TCAATTTGaT GTAACACAGC TACTTTATCG TCTTTGAAAC 720  
 TTTCCATGTC ATTGATAACT TGGTCAACCA TCATATCAAT TAAACGTTTG TTGTCGAATG 780  
 45 GTTTATCTTC tCTGCCTTTT GTATCTGTGT ACATTTTATA ATGCGCATCA AACCTAGATA 840  
 ATGCACTCAA TTGCTGGCTT AATGCATCTT TCGATAAGCG ACCATCaAGG TTATGATTCA 900  
 ATGTTACATC CACAACACTC GTTGCTTTCT TATCATTTGG TTCATCTTGA CGATTTGCTT 960  
 50 GTCCAAATAA CAATTGTAAA TGCATTGTTT TATCTTTTAA GAAATCTTTC TCAGCATCCT 1020  
 TTTTCAATTT AGCAAGGCGA TTGACTTCAA CTTTATATTC CTTGTTAGAT GTATCGAGTT 1080

|    |             |             |            |            |            |             |      |
|----|-------------|-------------|------------|------------|------------|-------------|------|
|    | TAAAATGAGG  | AtCTGTTGCA  | ACAGTTAATT | GATTAATATC | ATTACTTTTA | ATCGTTTCAG  | 1200 |
|    | TACGTTGCAC  | TTTGACACCA  | TCATTAATCA | AACTACTTGT | GTCTTGCGCA | ACTTGGTTAT  | 1260 |
| 5  | CGTAATCTGT  | TAAATTAATG  | TGTTCTGCTA | ACGGTTTTTT | CAAATTATAT | TCAITTTTAT  | 1320 |
|    | AACGTTTTGC  | TTCTTTGACA  | ATTGCTTCGT | ATTTATTAGC | TTCATCCTCA | TTTAAACCTG  | 1380 |
|    | CAGCTATAAA  | GTCTTGTTTA  | GACATGTTAT | AGATAAATGT | TGTATCTGTA | TCAGGTTCTT  | 1440 |
| 10 | TGACAATATC  | ATCATGAAGT  | TGTTTCTCTA | AGTTTTCAGC | GAATTGAGCA | TTGTTCAITTT | 1500 |
|    | TAATGCTATT  | TAGCGCATCT  | TGTAAGTCTT | TGTTATTTGC | AAGCTCATCT | TGCAGTGATT  | 1560 |
|    | CTGTTAATTG  | CTTACGATAn  | TCTTCAATCA | TACCTTTTGA | AAATGGTGAC | TCTTGTGATT  | 1620 |
| 15 | GAATGATTTT  | TCTTAATTTA  | TCTAAGTTTT | CTTTAACAGT | TTGTTTATAT | TCTTCTTTAC  | 1680 |
|    | CTGTATCTTG  | CATACTTGAT  | TGTTGATCAA | TTTGGCTGTC | CATCTGTTTT | AATGCATTGA  | 1740 |
| 20 | TATAGTTATC  | AAGTTCCACG  | CTATCTTTTT | GCGATTTATA | ATCTTGTAAC | ATTTTATCCA  | 1800 |
|    | TCGCTGTATT  | GTGCTCGTCA  | AATAATGAAT | TTTGTTTTTC | AATTAAAGTC | GAAACATTAT  | 1860 |
|    | AATCTGTGTT  | CACCTCTGAAC | GTATCTGAAT | TCGCACTCAA | TAATGAITTA | TTGTATGTTT  | 1920 |
| 25 | GGAACCATTT  | TGTAATGTCT  | TTGTTTGCAG | AAATTGAATT | TACAAGCGTA | TCTGTAAATA  | 1980 |
|    | ATTCCGGGAA  | GTGTTAATT   | GGATTTAATA | AGTAATTCGA | GAATTTACTA | TTACACCCAT  | 2040 |
|    | GTTACGCGT   | CATAATAGCG  | CCAACATTTT | TTTGTGCATT | ATGTAAATTA | TCAATGATGC  | 2100 |
| 30 | TTGTAAATA   | AATTTGACT   | AAGTTTTTGT | TAAAGTCGTT | AAGTACATTA | CTTACAACCT  | 2160 |
|    | TTTCTGTGTT  | TTTAGCTACT  | TCTTCTTTTT | GTCCTACAGC | TGTTTTATAC | TGTAGCGATA  | 2220 |
|    | TTTTCGATGG  | TGTTTTAGCG  | TCTAATTGCA | TTGCCAATTT | TGAAAAGTTT | TCTGGGATAA  | 2280 |
| 35 | CAATCATGAC  | TTGGTATCCA  | CCATTTTTCA | AACCAGACTC | AGCAACGTTT | CTTGTTACTG  | 2340 |
|    | TTTCAAAATTT | ATAGTTTTTC  | TCATTTGCTA | ACCTTTTAAT | AAATGCTTGA | CCCAGCTCAA  | 2400 |
| 40 | CTTTTTTACC  | GTTATATGTC  | GTTGGTTGAT | CCTCGTTAAC | AATTGCGATA | TGTATTTTAT  | 2460 |
|    | TATTTTTATT  | ACTTACACTT  | TGGGATCCTT | TTTCTGATTG | ATCTCCATAT | TTTGTTTGAA  | 2520 |
|    | CAAAAAATAT  | CATACTAACT  | ATGGCAATTA | TAATAATTAA | AGTGACAATT | AATGCATAAA  | 2580 |
| 45 | TCCAATTTTT  | CTTTTTCATG  | CTTATTTTCT | TTCAGTTGTT | TTCTTAAAAA | AATGATAAGC  | 2640 |
|    | AAAGCCACAT  | TAGAAAATGT  | GACTTTGCCA | ATTTCAGAAT | GCTTATTGCA | AACCGAAATT  | 2700 |
|    | ATTAGAAAGT  | TGTTGGTCTT  | GTTCTTGAAC | GGCATCAGCA | GTGCTATTcA | ATTGTTGTTT  | 2760 |
| 50 | AATTTCTTCT  | AATAATTGTG  | CAAAATTTTT | TACTTTAGGA | CTAAGTTGTT | GGAATTGCTC  | 2820 |
|    | TTCGAAACGG  | CTGAAAGCTT  | GACCTTCCCA | GTTGCTGCA  | ATTTACCTt  | GTGCACGkGT  | 2880 |

|    |  |      |
|----|--|------|
|    | TCTGATTTCC TCTGGACTCA TCTTAATCAT TGCCATAACT AGAAACCTCC TGAATATTTT  | 3000 |
|    | AAGTTTATCa AAACCTTTTTA GGGACACTAT TTTTTGAAAA AGTGCTCCTT ACTCAAATAA | 3060 |
| 5  | TATATAAATT ATTAGTATAT GTATATAGTc TTTTAAGTAT TTTTAGCTTT TTTAAAAATA  | 3120 |
|    | ATATATTGAA TATAACCATA TATTTTTAAT TAACCATTCA TTTTTGTAAT ATAAATGTGT  | 3180 |
|    | ATACTAAAAT TAAATTAAAT ACATAAAGGA TTAAATGGTT ATTATGAAGA AAACAATTTT  | 3240 |
| 10 | ACTGACGATG ACAACTCTTA CTTTATTTAG TATGTCGCCT AACTCGGCTC AAGCATATAC  | 3300 |
|    | GAATGATAGC AAAACATTAG AAGAAGCAAA GAAAGCACAC CCAAACGCAC AGTTCAAAGT  | 3360 |
|    | GAATAAAGAC ACCGGCGCGT ATACTTATAC ATATGACAAA AACAACACGC CAAACAACAA  | 3420 |
| 15 | TCATCAAAAC CAGTCACGTA CAAACGACAA TCATCAACAC GCAAATCAAC GTGATCTTAA  | 3480 |
|    | CAACAATCAG TACCATTCTT CATTAAGTGG TCAGTATACG CACATTAATG ACGCAATTGA  | 3540 |
|    | TTCACACACA CCGCCTCAAA CGTCACCAAG CAATCCTTTG ACACCAGCAA TACCGAATGT  | 3600 |
| 20 | CGAAGACAAT GACGATGAAT TAAATAACGC TTTTTCAAAA GATAACAAAG GGCTTATTAC  | 3660 |
|    | AGGCATCGAT TTAGACGAAT TGTATGACGA ATTACAAATC GCCGAATTTA ATGACAAAGC  | 3720 |
|    | AAAGACCGCT GACGGTAAAC CTTTAGCATT AGGTAACGGT AAAATCATTG ATCAGCCTCT  | 3780 |
| 25 | TATCACAAGT AAGAACAAC TATATACTGC TGGACAATGT ACATGGTATG TCTTTGATAA   | 3840 |
|    | ACGTGCCAAA GATGGACACA CGATTAGTAC ATTTTGGGGA GATGCTAAAA ACTGGGCAGG  | 3900 |
| 30 | CCAAGCTTCA AGCAATGGCT TCAAAGTAGA TAGACACCCA ACACGAGGAT CAATTTTACA  | 3960 |
|    | AACAGTAAAT GGTCCATTTG GTCATGTAGC CTACGTTGrA AAAGTTAATA TTGATGGAAG  | 4020 |
|    | TATTCTAATT TCAGAAATGA ACTGGATTGG TGAATATATC GTTTCATCAA GAACCATCTC  | 4080 |
| 35 | TGCTTCAGAA GTTTCATCAT ATAATTACAT CCATTAAATT AATCATGACA TCAATAAAAA  | 4140 |
|    | GCGAECAGTT CGCAGTTTAC AATTCGTAAC ACTGCAAAAT TGGTCGCTTT ATTTTGTATG  | 4200 |
|    | TTATTCGATT ATAAAATTAC AAAGAAATGT TCTCTACATT CCCCATTAAT CAAAATCGTT  | 4260 |
| 40 | TACGAAAGTA TAATTGTAGC TATAATAATC CAAGTCGTAA CAACTAGTGG CACTATCGTC  | 4320 |
|    | TTGAATAAGA ATATACCGTA TTTTTTCTTG CGATATATAT CCAGTACTAG CCAAATTAAA  | 4380 |
| 45 | ATGATTATAA CACCAACAAA AATAAATACA GGATTCATCG ATATAGCATC TGCCTGTAAC  | 4440 |
|    | TCAGGTTGCA TTCTTAATTT AGTGATAATT AACATCACTA CTGAAATAAT GAAAAAGTAG  | 4500 |
|    | ATACCTCTTA TCTTTGATGT CTGTAAATCT AATTCCTGCT CTTCAATGAC CTCTTTAGAT  | 4560 |
| 50 | TCACCCAATT CTTTTGCAAT CAAATAATTT ACTACCTTAG GTTTCACCCA TAAACACTTA  | 4620 |
|    | ATATGATCCA GTATCCATAA ACATTAAAAA GTTGCTTAAA                        | 4680 |

## (2) INFORMATION FOR SEQ ID NO: 269:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2004 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 269:

ACAAAAAATT CACCCTCATT AATATTGAAA CTAATGTTAT CGACAGCAAC ATGTTTGCCA 60  
 TAACGCTTAG TTACATTTTT AAACCTAATC ACTTTGCCAC CTCTTTTTTT CTCATAGCAT 120  
 AAAACCGAGA TTATATGTAT GTATTCCTTA TTTAACCACG TTTATTACAA TTTTCAAATT 180  
 TAAATGATTT ATCCTTGAAC TTTTAAATA AAATAATGAA TAAWAGGWAA TCWCCAGTTA 240  
 AGAAATAGTG TTATTTTACC TTGAATTCAA AAAACACCCC AGTAAAACAA GGAATGCTTA 300  
 CTAGGTGTCT TCACTATACT TTGGCTTTAT AATTTTGAAT CGTTtCTAAA AATGCTGGAC 360  
 AATAATGTTT TAATTTGTAA CTACCTACGC CATCMATATT AATCATATCT TGTTCGAAG 420  
 CAGGCTTACG TTTAGCAAAT TCCTCCAACG TGTAATCAGA AAATATACTT ACAGGTGCTA 480  
 TCGTTAATTT GTCACCTAAC TTTTACGAA CTTCTACCAA CTGACTGAAT AATACTCGGT 540  
 CAACCCCTTC AACCGTATTT ATAAATACTT TTTCAAGTCGC TTTTGGCTTA AATGGTGTG 600  
 TGAATACTTC TACTTCATTA CTGAGTAATT TTTAATTGA AGTATCACAC ATTAATATTT 660  
 CGTCATTTTC ATTTAAGAAC CCTTGAATC TTAATTCATC TATTAAGTGA CTTAATTCTG 720  
 ATGTTGTGTA ACCTTTCATT AAACCATGGG TTGAAATTTG GTCATAACCT TTATACTTAA 780  
 TATAATCTGk TGA CTCTCCT CTTAACACTT GAATGATAAC ACTATAACTC TCTTGTGTT 840  
 TCATACGAGC GATGCAACTA ATAATCATCT TAGCTTCTTG TGTCAATTA TATGATTTAT 900  
 CTTGTTGAAC ACAATTACTA CATTGTTTAC ATTCTTCTAA TTTTTCATTC GGTTCAAAAT 960  
 AATGGACAAT TGTGCTTCT AGACATTTTT TTGTTTTTGT ATATTGAATC ATTTTAGTTA 1020  
 ACTTTTCGCC CATTTTATCT TTATAGTCAT CATCAGCTTG AGAGACTGTT ATAAAATACT 1080  
 CGTGTAATTT GATAcCGCGT TCGCTAAATA ACAAATACA TTCACTTTTT AACCCGTCAC 1140  
 GACCTGCACG ACCCGCTTCT TGATAATAAG ATTCTAAATC TCCAGGCATA TTATAATGAA 1200  
 TAACAAAGCG TACATTGGAT TTATCAATAC CCATACCAAA AGCATTTGTA GCAACGACTA 1260  
 CTTTAACACG ATCAAATAAG AAATCATTCT GCGCTTCTTC TCTTTCTTTA TTGCTCAAAC 1320  
 CTGCATGATA TATAACACTT TCAATTTTCT GACTTTCTAA GGCTTCTTGA AGCTCTTCAA 1380

|    |  |      |
|----|--|------|
|    | CCAATATAAA TTTTGTACGT TGATAAGTAG GATTTACTTT AAAAATTAAG TTTCTACGCT  | 1500 |
|    | TAGTACTCGT TTTAATTGGA TCAGTTTGAG CGATATTTAA CTTTTCTCTA ATATCTTGCT  | 1560 |
| 5  | GTACTTCAAC CGTGGCAGTT GCTGTCAACG CTATTATTGT AAAATCTTGA GGTAACGTAA  | 1620 |
|    | ATACTTTTGA AATAACATTT TGGTAACTCG GCCTGAAATC ATGACCCCAT TTAGAAATAC  | 1680 |
|    | AATGCGCTTC ATCAAACGCG ACTAAGTGAA TCTTTATACG CTGAAGCATA TTTAAAAAAT  | 1740 |
| 10 | ATCGGTTTTTC AAATCGTTCT GGTGCAACAT ACAAAAATTG AATTTCTCCA TTTGATAATG | 1800 |
|    | CTTTTTCAAT ACGTTGTTGC TCTTTTTGAG TCAAACTACT ATTTAAAAAA GCAGCTTGAA  | 1860 |
|    | TTCCCATCGC TTTTAATTGA TCCACTTGAT CTTTCATTAA TGATATTAGT GGACTTATTA  | 1920 |
| 15 | CAATTGTTGT ACCACCTAAC mATAAACCTG GTACTTGTA GcmTATAGAC yTACCTCCAC   | 1980 |
|    | CAGTtGGkAA GrCACCAAGC ACAT   | 2004 |

## (2) INFORMATION FOR SEQ ID NO: 270:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2244 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 270:

|    |  |     |
|----|--|-----|
| 30 | AAAGATTGCT TGCCTTGAGG GTTTATATAT CTGACTCAAT TGCCACATTT TTATCAAGAG  | 60  |
|    | TAGTTGATAA TACTCATCAT AATTATAGCT AATATTATAT TTTTTTAAAA GATAGTGTAT  | 120 |
|    | GATTTTCTGG TGTTTGTGT ATACGTCATT AAATTTCAAG TAGTCATTCT CCAAGTTATA   | 180 |
| 35 | CGTATAACAA ATATTTCCGG ATAAAGTTAG AATAAAATAT TTAGAAAAAT CATTCAATTTG | 240 |
|    | CGTAATCGCT AAATTAAGTG TTAAATATAA GACATAAGTA ATTAATTTAA TGTGATATGA  | 300 |
| 40 | TGTATTATTA CTTTGCTAAA TAGTAGATAG AACAAAATTT GTAATCGGGA GGTAACAATG  | 360 |
|    | GATTACGCAC ATTTAAATTT AGAACATTTT TTTGCACGAA ACGACGATTT AGATGTTATA  | 420 |
|    | AGAGATCGCG CTGATTTCTG GATGATAAAT AACTTCACTA ATGAAATGAT GTATCGTGAT  | 480 |
| 45 | GGTCAAATTG AAGGCACGAT TGATTTAAAT CAGTACTATT ATAAAAATAG ATCAAATGCA  | 540 |
|    | GCAAGTTTTA TTATGATGGA TTATAAAAAA GAACTAAGT AAACGAACAA AAGAATTTTT   | 600 |
|    | TGTTTTTTAA TACGTGAATA ATAAGATTAT TGATATAAAG GTTTTCAAAG GTTATACAAA  | 660 |
| 50 | AAGATAAAAC ATTTATGATT CGTAGATCAA CGTAAAGTAA TGTTGATAAA TGGTTTAAAA  | 720 |
|    | TTATTTATGA ATATGTAACA ATGCATAGAT AAAATTGTTA                        | 780 |

ACCTAAGAGG TGTGGATATG AATAAACACA AGAAAGGTTT TATTTTGGGA ATAATAGGAC 900  
 TTGTTGTCAT ATTTGCTGTT GTCyCaTTTT TATTTTCTC AATGATATCC GATCAGATAT 960  
 5 TTTTCAAACA TGTAAATCC GACATTAAGA TTGAAAAGTT AAATGTTACA TTAAACGATG 1020  
 CAGCAAAGAA ACAAATAAAT AATTATACGA GTCAACAGGT ATCAAATAAA AAGAATGATG 1080  
 CATGGAGAGA TGCATCTGCA ACTGAAATTA AAAGTGCAAT GGATAGCGGT ACTTTTATCG 1140  
 10 ATAATGAAAA GCAAAAATAT CAATTTTTAG ATTTATCAAA GTATCAAGGG ATTGATAAAA 1200  
 ATAGAATTAA ACGTATGTTA GTAGATAGAC CAACGTTATT GAAACATACG GATGATTTCT 1260  
 TAAAAGCTGC TAAAGATAAG CACGTTAACG AAGTTTATTT AATTCACAT GCATTATTAG 1320  
 15 AAAGTGGCGC AGTTAAAAGT GAATTAGCTA ATGGAGTCGA AATTGATGGC AAAAAGTACT 1380  
 ACAATTTCTA TGGAGTAGGA GCCCTTGATA AAGACCCAAT TAAAACAGGT GCAGAATATG 1440  
 20 CTAAAAAGCA TGGTTGGGAT ACACCTGAAA AAGCTATTTT AGGCGGTGCT GATTTTCATTC 1500  
 ATAAGCACTT CTTATCAAGC ACAGATCAAA ATACATTGTA TAGTATGAGA TGAATCCAA 1560  
 AAAATCCAGG AGAACATCAA TATGCTACAG ATATTAAGTG GGCAGAAAGT AATGCAACAA 1620  
 25 TTATCGCTGA CTTTTATAAG AACATGAAGA CTGAAGGAAA ATACTTCAA TACTTTGTGT 1680  
 ATAAAGATGA CAGTAAACAT TTGAATAAGT AATTTGATAA GCTACGAGTT GTTTTATGA 1740  
 CTCGGACATA CTAAAAAGAC GCTTTCTATC TTGTTTTGAT AGAAAGCGTC TTTTGCATT 1800  
 30 AGAGAAAACA CATTGATkGA TAAtCCCaCC aATGCAAgTG GGGcAGGACa TCGATAAAGA 1860  
 ATTACTTTTT CTTTAGAAAT TAGTATTTCT TATGCATGAG TTTTACTCAT GTATTCCTAT 1920  
 TTTTAAGTAC ACATTAGTTA TAGCTAATGA TAAAGAACCA CTACATAATA AATCATTAGT 1980  
 35 GTTTTTTTAT CATTCTGTC CcActCTCAT CGTGATTGA AATTTTCAAT TGCGATTTTA 2040  
 ATTTTCATCTC TTACACGTTG GAACTCTGAC CAAGGCTTGC CTGCAGGATC ATCAAATCCC 2100  
 CAATGTTCTT TCTTAACATT TGTGGTAAA GAAGGGCAAT TTACGTCTGC ATCACTACAT 2160  
 40 AATGTAACAA CTAAATTGA ATTTnTAATA ATATTATTAT CGGATTAAAA TCTGATGGAT 2220  
 GATTTGATAT ATCAATGCCT ACTT 2244

(2) INFORMATION FOR SEQ ID NO: 271:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1371 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

|    |   |      |
|----|---|------|
|    | ATAAGCAATT TAATTTTGAG TCTACAATGG AGGAATTATC ATCTTTATCA GAGACTTGCC | 60   |
|    | AACTTGAAGT GTTGGGTCAA ATTACTCAAA ACAGAGATCG TGTAGATCGC AAATATTATG | 120  |
| 5  | TTGGTAAAGG TAAAATTGAA GAAATTCAAG CATTTATTGA GTTCAAAGAT ATTGATGTAG | 180  |
|    | TCATCACAAA TGATGAATTA ACGACTGCAC AATCCAAATC ACTAAATGAA GCTTTAGGTG | 240  |
|    | TAAAAATTAT TGATAGAACT CAGTTGATTC TTGAAATATT TGCATTAAAG GCAAGAAGTA | 300  |
| 10 | AAGAAGGTAA ATTGCAAGTA GAGCTAGCAC AACTTGATTA TTTATTACCT AGATTGCAAG | 360  |
|    | GCCATGGTAA AAGCCTTTCT CGTTTAGGTG GCGGTATTGG AACTAGAGGC CCTGGTGAAA | 420  |
|    | CGAAGTTAGA GATGGATCGC AGACATATTC GAACTCGTAT GAATGAAATT AAACATCAAT | 480  |
| 15 | TGCGGACGGT AGAAGAACAT CGCGAAAGAT ATCGAAATAA AAGAAATCAA AATCAGGTGT | 540  |
|    | TTCAAGTAGC TTTAGTTGGT TATACAAATG CTGGTAAATC ATCATGGTTT AATGTTTTAG | 600  |
| 20 | CAATGAAGA GACGTATGAA AAAGATCAAT TATTTGCAAC GTTAGATCCT AAAACACGAC  | 660  |
|    | AAATTCAAAT AAATGATGGA TTAAATTTAA TTATTTTACA TACTGTTGGT TTTATACAGA | 720  |
|    | AACTACCTAC GACGTTAATT GCAGCTTTTA AATCAACTTT AGAAGAGGCT AAAGGTGCAG | 780  |
| 25 | ATTTATTAGT ACATGTCGTA GATAGTAGCC ATCCTGAATA CCGTACGCAG TATGACACAG | 840  |
|    | TTAATGATTT AATCAAACAA TTAGATATGA GTCATATTTT TCAAATAGTT ATTTTTAATA | 900  |
|    | AAAAGGACTT ATGTGATCAT GCATCAAATC GTCCAGCAAG TGATTTGCCT AATGTTTTTG | 960  |
| 30 | TTTCTTCTAA AAATGATGGT GATAAATTAC TTGTTAAGAC GTTATTTATT GATGAAATCA | 1020 |
|    | AAAGGCAATT AACTTATTAT GATGAGACAA TTGCGACGAA TAATGCAGAT CGATTATATT | 1080 |
|    | TTCTAAACA ACATACATTA GTGACTGAAC TTAAATATGA TGAAATTGAA AATGTTTATC  | 1140 |
| 35 | GTATAAAAGG ATTTAAAAAA TAATAAAAGG ACGAAATTCA AATGAAAGAT ATAAGTAAGA | 1200 |
|    | TAGTAGCTGA CGTCGAATCA ACGTTAGCAC CATATTTTAA AGAAATTGAA GAAACAGCAT | 1260 |
| 40 | ATATTAATCA AGAAAAAGTA TTAAATGCAT TTCATCATGT CAAAGCAACC GAAAGTGATC | 1320 |
|    | TACAAGGATC AACAGGATAC GGGTATGATG ACTTTGGACG TGATCATTTA G          | 1371 |

(2) INFORMATION FOR SEQ ID NO: 272:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 6035 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

SEQUENCE DESCRIPTION: SEQ ID NO: 272:

|    |             |             |            |            |             |            |      |
|----|-------------|-------------|------------|------------|-------------|------------|------|
|    | CGTAAAcCTA  | TGCGTTTTAA  | TATTCTGAAG | TTACTTAGTT | CATCCTCAGT  | TTCATCCATT | 120  |
|    | TGTTTAAATAT | AAATAATACA  | TCCAGCTGCT | ACTAAAAATG | CTAATCCTAA  | AAATGATGTA | 180  |
| 5  | ACAAATATTA  | GAATACCGTT  | AGTAGCATcG | ACCTCTTTTT | TCATTTTCATC | ATACGTGATG | 240  |
|    | ACTTTGTCTC  | CAAACTGTTT  | TGCAATTGCT | TGAGCTTTTT | CCTTTTGTGA  | TGTTTGTTTA | 300  |
|    | ATATCATATC  | CATAAAAAGT  | ATGAACGTTA | TTTTGTGTTT | TCAACTGCTG  | ATACTTTTCA | 360  |
| 10 | GGACTTACTT  | CGATGACAGG  | TGAGTTGAAG | CTTAGATTTA | AAGGATAAAC  | CTTACCTTTG | 420  |
|    | TCTTCTTG TG | TAcACGGAAA  | GTTTCATTCT | TAGTACCTTT | TACTACTAAA  | TCTTTGTTTA | 480  |
|    | AATGGATATT  | AATAATGTTA  | GGCAGCGATT | TTGTATTTGT | AATGATGGCA  | TTGTTGCCTG | 540  |
| 15 | TtAACTTGTT  | ATTTGCACTT  | AAAATAGAAT | TCGTGCGACC | TGAATCACTA  | CCATTTTCCA | 600  |
|    | AAGTAATAAC  | CTGATCATTa  | ACATTATCTA | CAGTAATAGT | TTCGTAAGCA  | TTTTTAGAAA | 660  |
| 20 | ATGTAATTTG  | TTGTTGGCTT  | AGTTTAGTTT | CAAATTGTTT | AGCATCTTGA  | GTAGCGACCA | 720  |
|    | CGTTAAATTC  | ATTTGGTGCC  | ATAGATGTAA | GGGTTTGATC | TGTATTTGAT  | TTAGATAATG | 780  |
|    | CCGCAAAACA  | CAATACAGTT  | ACTGTAAGTG | CAGAAATAAT | TGCAATGATA  | GTTAAAGACA | 840  |
| 25 | TGGCATTFFF  | CTTCATTCTG  | TACATAATAG | ACGATGTGAA | TACAACATCG  | GTAATAGATA | 900  |
|    | CGCGTCCATT  | TTTTGATTTT  | TTCAATGTTT | TAAAAATAAG | TGACACGGAA  | CTTCTGAAGA | 960  |
|    | ATAAATAGGC  | GCCTACAACC  | GTTAAAAATA | AAATGATAAA | CGGTGATGTC  | ATAGCCATAG | 1020 |
| 30 | TTAGTGCTTT  | GAACGTACCA  | AACATTTCTG | TCGCCATATA | ATAGCCTAGT  | GCAATCATAG | 1080 |
|    | CAATACCTAA  | TACGCCTGAA  | ATAACCTCTG | CAGTCGTTAC | TTTAGCAGTT  | GTGGCATCAG | 1140 |
|    | TTTTAATTGA  | ATCTTTTCATC | ATTGATAAGA | TACTACGTCT | TTTTAGAAAT  | AAAGCACTTT | 1200 |
| 35 | GAAATAAAAT  | CAGTACATAC  | GCAATAATTA | GCATGAAAAT | AGTTAAAAACA | AGGGCCATAG | 1260 |
|    | GTTcGAAATG  | TATCGATAAG  | TTAATCGATA | ACGACATCAA | TTTAGATACT  | ATGGAAAGCA | 1320 |
| 40 | ATAaTTGTGC  | ACCTGCAATG  | CCACATAATA | CACCGACAAC | ACCTGTGATT  | AAAAATACGA | 1380 |
|    | TCATTtGTTc  | AAGTGCTAAC  | ATTTnCAAAA | TGTTTTGTcG | TGTTAAACCA  | ATCaACTGAA | 1440 |
|    | ATAGCGCAAA  | TTACCGTGTA  | CGGCGTTTTA | CGrmTAAATG | ATTGGCATAc  | ATTAAAAAGA | 1500 |
| 45 | TGACAATAAT  | GATAAATAAA  | AATATTGATC | CGACTAAAGC | ACCTTTCTTA  | ATGATGGCCA | 1560 |
|    | TCGAGTCGTC  | ATTATTTTACA | CCTTTAGTAA | ACTGTAAGGT | TGTAAAACTG  | AAATATAAGA | 1620 |
|    | CGATGCTAAA  | AAATAATGAA  | AATAAATACA | TTGCATAATG | TTTTAAGTTT  | TGTCGTAAGT | 1680 |
| 50 | TTTTGAAAAAC | GATATGGTTA  | AATGTCATTT | GAGACACCAC | CTAATACTGA  | TTGAAGATGT | 1740 |
|    | ACAATGTCTT  | CATAAAAGGC  | CTGTTTAGAA | CGTCCTTCCT | GATAAAGTTG  | TGTATGAATT | 1800 |

|    |   |      |
|----|---|------|
|    | ACCATGACAA TAGTTGTATC AAACGATTTA TTCATTTCTT CCAAACGTTG TAATAGGTCA | 1920 |
|    | TTTGCACTTT TCGAGTCGAG TCGGCCTGTT GGCTCATCTG CAAATATGAT TTGTGGTTTG | 1980 |
| 5  | TGAACAAATG CTCTCGCTGC TGCAGTTCTT TGTTGTTGAC CACCAGATAA TTCGCTAGGG | 2040 |
|    | TATTTATTTT CTAGGTCATA AATACCTAAT GCTGTCGTGA TCGCTTTATA ATTTTCTTCC | 2100 |
|    | ATTGTTGCCT TCGACATTTT TTGAACAGAT AAAGGTAACA TAATGTTTTT TTTAACGGTT | 2160 |
| 10 | AATGTCGGCA GAATACTGTA ATCTTGGAAG ATGAAACCTA ATGATTCTTT GCGGAATTTG | 2220 |
|    | GCAAGTGCTT TTTGATTAAG TTTATTAAGC TCTGTCCGT TAGCAATCCG CTACCGCTAG  | 2280 |
|    | AAATTTGGTC AATTGAACTT AGTACATTTA ATAAGGTTGT CTTACCTGAT CCAGAAGGCC | 2340 |
| 15 | CCATAATCGC AACGAATTCG CCTTTTTGTA TGTCAAAGTT AATATCTTTA AGTGCTTGAA | 2400 |
|    | ATGTGTGCTT TTTACCGTAT GTTTTTGAAA CATGTGCACT GATAATATCG TCATAGTCTC | 2460 |
|    | ACTCCTTTTG TATTTAATTT CATTTTAAAT AATGTTTGGA GTAGTAGCCT TTATCTAAAC | 2520 |
| 20 | TTACAATTCA ATGAATGAAC CTTACAGAGT TGAAATCTAT CGCTACTTAG TAGATTTTTG | 2580 |
|    | AGTGAGGATA CAGATTCATC GTACATATTA GACAAAAGCA ATGGTGCTTT CTAAGTGATG | 2640 |
|    | ATGTTTGTGT AAATTGAGAA AAGGGAATTT AATTATTGTA TAATAAATTT TTTGTAAAAA | 2700 |
| 25 | TTAAAAGAGG GTTTTATTTG AAAGGAATTG ATTGTTATGG AAAAAGGAAA TCAAGGTATT | 2760 |
|    | AAATGGTCTA GTTTAATAAT GGGTGTATTA TTATTAATGT TGGCAGTCGT TATTTTTACA | 2820 |
|    | TTTCCAATTG AAAATTTTTA TGCTATTACC TGGTTGATTG GACTGTTTGT ATTAATTAAC | 2880 |
| 30 | GGTGTGATTG AAATCGTTTA CCGTAGAAAA GCAAAAGCTT TAGTAGGTGG TAACCAAAAT | 2940 |
|    | TGGATTCGTG TTATGGGGAT TGTAGATATT CTATTTGGTC TATTAGTTAT TTTAATGTT  | 3000 |
| 35 | GGCGCAAGTT CAGCATTCTT TATTATATG TTTGCTTTTT GGTTTATTTT TAGTTCATC   | 3060 |
|    | TCTGGATTAT TTACGTTTTT GGGTAGTGGT AGCTTAAAC TAATTTTCACT GATTTTTAAT | 3120 |
|    | TTATTAGGTA TTGTTTTCGG TGTCAATTTA TTATTTAATC CATTAATGGG TATCGTCTTT | 3180 |
| 40 | ATTTGACGA TGATTGCTAT TGCATTTGTA TTCGTAGGTG TCATTTATGT TGTAGATGCA  | 3240 |
|    | CTTGCTTAAG TAAAATGAAG CGGTTCAAAA GAAGGGTGTG ACATGAAGTT TGTGTCATAT | 3300 |
| 45 | CCTTTTTGTT GTGTTTATGA AGCATAAAAA AGGGGCGCTA CCTACAATAA GTAAGATACG | 3360 |
|    | CCCATATTTT TATATTTTAC TATTATTGTT TTTCAATACG ATTAATAGTT ACATTTAGTC | 3420 |
|    | CAAAATATTT TTCTAAAAA TGTTTATAGT TATCTTAGT GACATCAAAT TTTTCTGAGC   | 3480 |
| 50 | TACCATTCCT TGTTAAAGTT AAATGATTTT CAGACATTGT AGCACGGCCA AATGATTGTG | 3540 |
|    | CCATGTAAT TAATAAATGC TGTACAAATA TTGAATCTGG ATGCGTTTGA TTATATTCGA  | 3600 |

|    |            |            |            |            |            |             |      |
|----|------------|------------|------------|------------|------------|-------------|------|
|    | AATGATCATT | TTCGAATTTT | TGAACATAGA | AAATATCCTT | GTCTTCGTTG | TTAAAAATAG  | 3720 |
|    | CGCGGAATGT | ACCACTGATA | TCAGTAATTG | GTTGTGTATG | CTCAGATGAA | GTAATAGGAA  | 3780 |
| 5  | TGGCATGTAG | AGGTAAGTCT | CCAAAGCCAA | CATCAGTTAC | ATAGAATACA | TCATTTATAG  | 3840 |
|    | AAACAACAAG | TGAAGCATGT | GAACCGTTCA | GACTACGACC | GCCACCGGGw | GTGTGAATAG  | 3900 |
|    | TAGCTGACAT | TAATTCAGGA | TTAAATCCTT | TTTGTGTGTA | ATAGGCTTTG | AAAAATGTAT  | 3960 |
| 10 | TTAATTCATA | ACAAAAACCA | CCACGTTTAT | CATGAACAAT | TTTATTAAAA | AGTGCATCGA  | 4020 |
|    | TATTTATAGA | TATCGGCTTA | CTATTTTGAA | CATCAATATT | TTCAAAGGT  | ACAGTTAACA  | 4080 |
|    | TAAAACGTGT | TGCATAATAA | TTTAATGCTT | CAATACTCGG | TCGATTATAA | CGAGATGAAT  | 4140 |
| 15 | CAATTTGTAA | ATAATTCTCT | AACTTCGCAA | TATTCATAAG | CATAGCGCCT | CCTGTATTAA  | 4200 |
|    | AGATTATAAT | TAAATTTTAA | ACAGAAATAC | TGAAATTTTA | AATTCGAAAG | CATTGAATTT  | 4260 |
| 20 | TGGATAAATA | CATTTTAAAT | AGAAAAATAC | GCTCTCAAAA | TGAAGTCATC | TCTAAAAGAA  | 4320 |
|    | ACGATTTAAA | GATGACTACT | GAGAGCGTAg | CATAATGGAA | GAAGTGTGCA | GGGTGTCTAA  | 4380 |
|    | AAATGCAACA | ATACAAAGGT | AGTTGCAAGA | CAAGTTGCCT | TATCTAGACC | ATTTGTGTTC  | 4440 |
| 25 | TATGCGACCA | AACTTCCAAA | TTAAACTTGA | AATAAGCCAA | GTAATTAAAA | ATAATGCAAC  | 4500 |
|    | TAAAATATAG | CCTAAATAAT | CAAATTCGAT | CGAACCAATG | AATGCCCAAA | ACGCACCATG  | 4560 |
|    | TAAATCTAAC | TTATCAGCAA | GAATTTGTAG | CAATTCAATC | ATCCCAATCA | CTAATGCTGC  | 4620 |
| 30 | CATGACTGAT | ATCGCAGTAA | TCGTTATATT | GTAATAGATT | TTGCGAATAG | GATTGAAGAA  | 4680 |
|    | TGCCCAATTA | TAGGCATACT | TCATTACAAC | ACCATCTAAT | GTATCCAATA | AACTCATACC  | 4740 |
|    | TGATGCGAAT | AAAATTGGTA | AAGATAAGAT | TCCGATAAAT | GAAATGGCTT | GTTGTGATGC  | 4800 |
| 35 | GCCTGAAGAA | AGAGCGAGTA | ACGCAATTTT | ACTAGCTGTA | TCAAAACCAA | GTCCAAATAA  | 4860 |
|    | AAAGCCAAGT | GGCAATACGT | GCCAACTACG | CGTGATTAAT | TTGAAATAAG | GTCTTACAAA  | 4920 |
| 40 | TCGAGAAACC | AATCCTCTAG | ATTCAAGTAA | TGCATCGACT | TCAGCTTCTT | CAATGTGTTC  | 4980 |
|    | ACGACGTAAT | TTAGCGAACA | AGTTAATTAA | AGAGATTAAA | ATAATTAGAT | TCAACACACC  | 5040 |
|    | GATAAGCACT | AAAAAGAAAC | CTGAACTAG  | TGTACCAATC | GTTCCACCAA | TATCTTGGAA  | 5100 |
| 45 | ATGCGGTAAT | TCATCTTTAG | CCCATTTTAC | AGATACCCCT | AAAAAACAG  | CCATTAAAAA  | 5160 |
|    | TACGACAGAT | GAATGTCCAA | TTGAAAAATA | GAAACCCACA | CCAGATGGAT | CTTTGCGTTG  | 5220 |
|    | CTGTAATAAT | TTGCGaACCG | TATTATCTAT | TGCAGCAATG | TGATCTGCAT | CAAAATGCATG | 5280 |
| 50 | ACGCAAACCT | AATGTATATG | CAAGAATCCC | CaTACCAAAT | AAGATATGAT | GGTCTTTTCC  | 5340 |
|    | AGCAATCCAT | AAAAAACTAA | ACCCAATAAC | GTGTAACAAA | ATGACAATAG | CTATGTATGG  | 5400 |

ATATTTAATC ATACTGTATG TTCAATGGGC ACTCTAGTAA TAAGTGTTCA TATAACAAAA 5520  
 ATGTTATGCC AAATTATTTG TTATATAAAA ATATACATGT AACCACAAAA GATTTTTTGC 5580  
 5 GATATATATA ATTTGATAAA TTAACCAACA ACAATGTAAG ATGTCACTTT GCTTAACTTG 5640  
 GCATCCTTTT TATGATTTTC AAATTCAAAA AAATGAGCAA AATGAATCTC TTTACcAGTT 5700  
 TTTAATATTT CaATACCATG CATGGAACCT AAGCACCCAT GTGTGATGCT GCAATGGATA 5760  
 10 TTGAGACTAG CAACCTGATT GTAATGATTA GATAGTTCTT GAATTAATAT TTGAGGTCCG 5820  
 TATATGTCAA AGCGGCCAGG GACAGACCAA ATAAATTCTG TTGTAACCAG TGAACGTAAT 5880  
 AATTCAATAT CTAATGCTGC TGTAACAACT ATAAAATCTA TCATTGTGTG ACGTTTAGGC 5940  
 15 GCATGATTGC ATGACACATC TCCTGTTAAC TTAAAAGGTA ATGATGACTG AACTTCCGTT 6000  
 TTAAAATGTA GTTGGTGCTG AAATAAAGCT TGTTC 6035

(2) INFORMATION FOR SEQ ID NO: 273:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1039 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - 25 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 273:

30 TTTTGAACAG CCATATTTAT TCACCCTCAA CATCATTATA ATGGTATTAG TCGCATTACC 60  
 TTCACTTGTT TTAGCTATAT ATGATTATAT GAGTTTTAGA ATTTCTTCTG CTATTTTACA 120  
 ATTTCTAGGG GCTATCTCTT GGTTCTTTTT ATCATTGATA TTATCGCTCA CACAATTTAC 180  
 35 ACCTTTTACA TTAGCGTCAT TTATAACTTC AATTATTTTG TTCACAAGCA CAATTATCAC 240  
 ATTAGCCATT GGTGGTAAGT CTGTTGAAAA GAATGATTCC CCTTAAATTC CAAATGAAAA 300  
 AAAGGTTCTG AAGGCCGCTA TAAAACACAG TTTTTCAGAA CCTCTATACT TCTATTCAAT 360  
 40 GATATATGGT TTGCAATTTT CTACCTTTAA ATCCACAGCT TCTGCCCTTG AAACTTTGTT 420  
 AAAATAAACC ATCAAACAAC GAATGACAAC TTGATGTGCA ACAATGACAA TATCATCTTT 480  
 45 TTGTGTATCT TCATTGACAA CATGATTCAT AAAATGTTCT ACGCGTTGAT ATACATCTTC 540  
 ATAACCTTCT CCTTCAGGCG CTTTTTGTGA AAAACTATGA CGAAAGTCTT TAAAGTTTGG 600  
 ATCATTGAAA TATTTTTTCAT ATTTCCGATT CGCACTGATT TCATCTTTAT ATTCACCCTC 660  
 50 AAATACGCCA AGTGAACGTT CTCTTAATAG AGGGGTAGTC GTTGATGCAA TGTCATATGG 720  
 AAAAAATATGT TCAAACGTTT GCTGTGTTCT TAATAAGTCT GAAACATATA CATGTTTAAT 780

CGGCACATCT AATTGTCCAC AAAAATAAGA TCGAAAATGT TTATTATCAT AATTCGATTT 900  
 TGATTCGCCA TGTCTAACTA AATAAATCGT CATAATATTA CTCCTTACCT TATGTATTTTC 960  
 5 ATATCTACCA TAACACTTTG ACTACTAATT CGATATCAAT CTTAATATTC TATTCTAAAA 1020  
 AAAGAATTAA TTCATATnT 1039

## (2) INFORMATION FOR SEQ ID NO: 274:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1496 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 274:

GAGAGAATnT GCAATTAGTT ATTCAATTAG TTGATTTAAG ACATGATCCA ACACAAGATG 60  
 ATATCTTAAT GTACAATTAT TTGAAACATT TTGATATTCC TACTTTAGTT ATATGCACTA 120  
 ArGAaGACAA AATTCCaAAA GGTAAGGTyC AAAAGCATAT TAAAAATATT AAGACACAAT 180  
 25 TAGATATGGA CCCAGACGAT ACAATTGTAA GTTATTCATC AATTCAAAAT AATAmCAAC 240  
 AACAAATATG GAATTTAATT GAACCGTATA TTTCATAGTT TTTGTACGTC AAAACTTATA 300  
 CAAAAATTTT AAAAATAATG TAAGCACGAA ACTTTTAATT AGTACACAAT TGATAACATT 360  
 30 TTTCAACGTT CATCATTTTG TCAAAAACTC AAAAGTAAAT TAGAAAAGATT ATAATTTATT 420  
 TAAGCATCGT ACTTAATTGG ATTTTAAATT ATGTTATAAT ATTTGTATTG TTAGTATATA 480  
 TGGGGGCTTT TCAAATGCAT TTTATTGCAA TTAGTATAAA TCATCGCACA GCTGATGTgC 540  
 35 ACTAAGAGAG CAAGTTACTT TTAGAGATGA TGCCTTACGA ATTGCCCATG AAGATTTATA 600  
 TGAAACTAAA TCTAyTTTAG AAAATGgTCA TATTaTCAAC ATGTAATCGA ACTGAAGTAT 660  
 ATGCTGTGTG TGATCAAATT CACACAGGTC GTTACTATAT TCAACGATTT CTAGCTCGTG 720  
 40 CATTTGGATT TGAAGTAGAT GATATTAAAG CAATGTCAGA AGTAAAAGTG GGGGACGAAG 780  
 CaGTAGAACA TTTATTGCGT GTCACCTCTG GTTTAGATTc AATCGTACTT GGAGAACTC 840  
 AAATTTTAGG TCAAATAAGA GATGCATTTT TCTTAGCGCA AAGCACAGGT ACGACAGGrA 900  
 45 CAATTTTTAA TCATCTATTT AAACAGGCAA TTACTTTTGC AAAAAAGAGCA CATAATGAAA 960  
 CAGATATAGC TGATAATGCT GTAAGTGTGT CTTATGCTGC GGTGAGTTG GCGAAAAAAG 1020  
 50 TATTTGGCAA ATTGAAAAGT AAGCAAGCTA TCATTATTGG TGCAGGGGAA ATGAGTGAAT 1080  
 TATCACTATT AAATCTTCTT GGTCTGGAA TTA CTGaTAT TACAGTAGTA AATAGAACAA 1140

|   |  |      |
|---|--|------|
|   | TACCAAATTT ACTTGAAAGT GCAGATATTG TGATTAGTTC AACGAGTGCA CAATCTTATA  | 1260 |
|   | TCATTACAAA TGAAATGATA GAAAGAATTG CAGAAAATAG AAAGCAAGAT TCACTAGTAT  | 1320 |
| 5 | TGATTGATAT TGCAGTTCCT CGAGATATTG AACCTGGTAT TAGTGCCATC ACAAACATCT  | 1380 |
|   | TTAATTATGA TGTGTATGAC TTAAAAGGTT TAGTTGATGC AAACCTTACGT GAGCGACAAT | 1440 |
|   | TAGCGGCTGC AACAATTTTCG GAACAAATTC CTACAGAAAT ACATGCACAC AATGAG     | 1496 |

(2) INFORMATION FOR SEQ ID NO: 275:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4826 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 275:

|    |  |      |
|----|--|------|
| 20 | CTTGATTTTT TCCCTTTAGT ATTTTCCaTt TGanTGTCGC AGCTTCIAAA TCCTGCTTTG              | 60   |
|    | GTTCTCTAGT GAACTTCATA ATTAAAGCAG CTACAACGAA' TGATACAAGT GCAGCAAGGA             | 120  |
| 25 | AGACACCGAG TAACATGTGC AAGAATTCAC CTCTAGGTGC ATTTAAACAG TAAACTATAA              | 180  |
|    | ATGAACCTGG TGACGCGGGA CTTTTAAATC CAAATCCTGT TGCTTGATAA GTTGCAACAC              | 240  |
|    | CAGTCATTCC ACCTAAAATA ACAGCGATAA ATAATAAAGG ACGCATTAAAT ACATATGGGA             | 300  |
| 30 | AATAAATTTT ATGAATACCA CCTAAGAAGT GGATAATTCC AGCACCATAT GACGTTGCTT              | 360  |
|    | TTGCAGTGCC TTTTCCAAAA ATCATATAAG CAAGTAAGAT ACCTAAACCT GGTCCAGGGT              | 420  |
|    | TAGATTCAAT TGTGTATAAA ATTGATTGAC CAGCTTTTGC AGCTTGATCT GCACCAAGCG              | 480  |
| 35 | GTGTGAATAC ACCATGGTTA ATCGCATTGT TTAAAAATAC AATTTTGTGA GGCTCTACTA              | 540  |
|    | AAAT <sup>1</sup> ACTTAC AAGTGGAGT AGGTGTGCAT GTACTAATGC TTCAACTGCC ACTGATAAAA | 600  |
|    | TATGCATAAT AAATTTTATA AGTGGTGCTA AAATTTTAAA TCCTGCAATC GTCATGATAA              | 660  |
| 40 | ATCCTAAAAT ACCAGCAGAA AAGTTATTAA ATAACATTTT AAAACCTTGC GCGGTTCTAG              | 720  |
|    | GTGGAATCAA TTGGTCGGTC TTCTTCATTA ACCAACCAAC AAGTGGACCC ATAATCATTG              | 780  |
|    | CACCAAGTAA CATTGGTGTA TCAGGTAATG CAACGATGAC CCCCATAGTT GCTGTTGCTG              | 840  |
| 45 | CGATGATACC ACCACGTAAA TCATAAATTA AACGACCACC ACTAAATGCG ATCAATAATG              | 900  |
|    | GGATTAAATA AGTAATCATT GGTCTTGCTA AAGTAGCTAA ATCTTTGTGA GGTAACCATC              | 960  |
| 50 | CATTATCTAT AAAAATGGCC GCGATAAAAC CCCAAGCGAT GAAAGCGCCA ATGTTTGGCA              | 1020 |
|    | TGATCATACT ACTTAAGAAT GATCCAAATG CTTGAACACG ACGACCAATT CCTTTTTTCT              | 1080 |

|    |   |      |
|----|---|------|
|    | GAGAGGTTAC TTGTTACTCA ATATAAACAA AAATCAACTT TGTCAAAATA AATGTGACAA | 1200 |
|    | AATTAAATAA AGTGTCATCA ATGTGACAGT ATAGATATTT TGAAAAAGTA AAACAAAAAA | 1260 |
| 5  | ATTGTTTTAG GATTTTTTAA ATTTTATTGT GAAAATATTT GCAAAACAAA ACAACACCGT | 1320 |
|    | gTACAATAAT GATTAATGGA AAGGGGGAAA GTTCGGCAGT ACAGTTAAAG CGCCTGTGCA | 1380 |
|    | AATAAATATT TGTATTTGAA GATTAAAGGT TAATATATGA GTGGCCTTTA TAGAGTGCAA | 1440 |
| 10 | TATATGTATT TGTAGACGAG GAGGATAGTG ATCGAATAGA TCGGCGGATG CTATCCCGGA | 1500 |
|    | TGTGGCTCAT TCGTTAGCTT ATTAAGTAAA ACATTAGGGT GACTTAATGG ACAAAGTTAA | 1560 |
|    | TAAGATCGCC AGAAATTGAA TATAAAAAAT ATTAATATGG AAAGTACAGT GTGAGCAATT | 1620 |
| 15 | TGTATAGTTG TAAAAATAAC TATGCTTAAT TTGTTATGGA TGAATGCGAT GATAGCATGT | 1680 |
|    | TCCTATTTAT ATTATGAAAG CAGATTGTCA ATCTAAATTA TCGGCAATAA ATCATAATTT | 1740 |
| 20 | ACGCGTACTA TTCCAATATG GAGGAAAATG TCGTTATGTG TGGAATTGTT GGTTATATTG | 1800 |
|    | GCTATGATTA TGCCAAAGAA TTATTATTAA AAGGTTTAGA AAAATTAGAA TACAGAGGTT | 1860 |
|    | ATGACTCTGC AGGTATCGCA GTAGTAAATG ATGATAATAC AACTGTATTT AAAGAAAAAG | 1920 |
| 25 | GTCGTATTGC AGAATTACGT AAAGTTGCTG ATAGTAGCGA TTTTGATGGA CCTGTTGGAA | 1980 |
|    | TCGGTCACAC ACGTTGGGCA ACACACGGTG TACCGAATCA TGAAAACTCT CATCCACATC | 2040 |
|    | AATCATCAAA TGGCCGTTTT ACTCTAGTTC ATAACGGTGT TATTGAAAAC TATGAAGAGT | 2100 |
| 30 | TAAAAGGTGA ATACTTACAA GGTGTATCAT TCATTTTACA AACAGATACA GAAGTTATCG | 2160 |
|    | TTCAATTAGT TGAATACTTT TCAAATCAAG GACTTTCAAC TGAAGAAGCA TTTACAAAAG | 2220 |
|    | TTGTGTCATT ATTACATGGT TCATATGCAT TAGGTTTATT AGATGCTGAA GACAAAGACA | 2280 |
| 35 | CAATCTATGT TGCTAAAAAT AAATCACCAT TATTATTAGG TGTGGTGAA GGTTTCAATG  | 2340 |
|    | TTATGTCATC AGACGCACTT GCAATGTTAC AAGTGACAAG CGAATATAAA GAAATCCATG | 2400 |
| 40 | ACCATGAAAT CGTTATTGTT AAAAAAGATG AAGTTATTAT TAAAGATGCA GATGGAAACG | 2460 |
|    | TTGTAGAACG TGATTCATAT ATTGCTGAAA TTGATGCATC AGATGCTGAA AAAGGTGTTT | 2520 |
|    | ATGCACACTA CATGTTAAAA GAAATTCATG AACAACCAGC AGTAATGCGT CGTATTATTC | 2580 |
| 45 | AAGAATATCA AGATGCAGAA GGTAACCTGA AAATTGATCA AGACATCATC AATGATGTTA | 2640 |
|    | AAGAAGCAGA CCGCATTTAC GTTATTGCAG CAGGTACAAG CTACCATGCA GGTTTAGTAG | 2700 |
|    | GTAAGAATT TTTAGAAAAA TGGGCTGGCG TACCAACTGA AGTACACGTT GCATCAGAGT  | 2760 |
| 50 | TTGTCTACAA CATGCCATTA TTATCTGAAA AACCATTGTT CGTTTATATT TCTCAATCAG | 2820 |
|    | GTGAAACTGC AGATAGCCGC GCCGTATTAG TTGAACTAA TAAATTAGGT CATAAATCAT  | 2880 |

|    |            |            |            |            |            |            |      |
|----|------------|------------|------------|------------|------------|------------|------|
|    | TACACGCGGG | TCCTGAAATC | GCAGTTGCAT | CTACAAAAGC | ATATACTGCA | CAAATTGCAG | 3000 |
|    | TATTATCAAT | CTTGTCTCAA | ATCGTTGCAA | AAGAGCaTGG | TCGTGAAGCA | GATATTGATT | 3060 |
| 5  | TATTGAGAGA | ATTAGCAAAA | GTAACAACAG | CAATAGAAGC | AATTGTTGAC | GATGCACCAA | 3120 |
|    | TTATGGAACA | AATTGCTACA | GATTTCTTAG | AAACAACACG | CAATGCATTG | TTTATCGGAC | 3180 |
|    | GTACTATTGA | CTATAACGTA | AGTTTAGAAG | GTGCGTTAAA | ACTTAAAGAA | ATTTCTTACA | 3240 |
| 10 | TTCaAGCAGA | AGGTTTTGCT | GGTGGAGAAC | TTAAACATGG | TACAATTGCC | TTAATCGAAG | 3300 |
|    | AAGGTACACC | AGTTGTAGGT | TTAGCAACAC | AAGAGAAAGT | TAATTTATCA | ATTCGTGGTA | 3360 |
|    | ACGTTAAAGA | GGTAGTAGCA | CGTGGTGAC  | ATCCATGTAT | TATTTCTATG | GAGGGTCTTG | 3420 |
| 15 | AAAAAGAAGG | CGACACTTAT | GTCATTCTCT | ATGTACATGA | ATTGTTAACG | CCATTAGTAT | 3480 |
|    | CAGTGGTTGC | ATTACAATTA | ATTTCTACT  | ATGCAGCATT | ACACAGAGAT | TTAGATGTTG | 3540 |
| 20 | ATAAACCACG | TAACCTTGCT | AAATCAGTTA | CTGTGGAATA | ATTCACTTTT | TTAGAATCAA | 3600 |
|    | TCATGTATTA | AAATTAAAGT | ATATGGCACC | CTTTTAGATT | AATCGACTAG | AAGCGTGCTT | 3660 |
|    | TTTTAGGTCG | ACTTaGCTTT | TACTTCATCT | TAATTTGGCA | GAAATGCGTa | AAAATGAAGT | 3720 |
| 25 | GTTTTATTTA | TTTAAATAGT | CTGACAATTA | AGGGTGTTAT | GTTAATATGA | TTTTATGAGA | 3780 |
|    | AGTATGGAGT | AGCAATAAAG | GGGTGACCTC | GCATGTTAAT | TCAATTAGAT | CAAATTGGGC | 3840 |
|    | GAATGAAGCA | AGGAAAAACA | ATTTTAAAAA | AGATTTCTTG | GCAAATTGCT | AAAGGTGATA | 3900 |
| 30 | AATGGATATT | ATATGGGTTG | AATGGTGCTG | GCAAGACAAC | ACTTCTAAAT | ATTTTAAATG | 3960 |
|    | CGTATGAGCC | TGCAACATCT | GGAAGTGTTA | ACCTTTTCGG | TAAAATGCCA | GGCAAGGTAG | 4020 |
|    | GGTATTCTGC | AGAGACTGTA | CGACAACATA | TAGGTTTTGT | ATCTCATAGT | TTACTGGAAA | 4080 |
| 35 | AGTTTCAAGA | GGGTGAAAGA | GTAATCGATG | TGGTGATAAG | CGGTGCCTTT | AAATCAATTG | 4140 |
|    | GTGTTTATCA | AGATATTGAT | GATGAGATAC | GTAATGAAGC | ACATCAATTA | CTTAAATTAG | 4200 |
|    | TTGGAATGTC | TGCTAAAGCG | CAACAATATA | TTGGTTATTT | ATCTACCGGT | GAAAAACAAC | 4260 |
| 40 | GAGTGATGAT | TGCACGAGCT | TTAATGGGGC | AACCCAGGT  | TTTAATTTTA | GATGAGCCAG | 4320 |
|    | CAGCTGGTTT | AGACTTTATT | GCACGAGAAT | CGTTGTTAAG | TATACTTGAC | TCATTGTCAG | 4380 |
| 45 | ATTCATATCC | AACGCTTGCG | ATGATTTATG | TGACGCACTT | TATTGAAGAA | ATAACTGCTA | 4440 |
|    | ACTTTTCCAA | AATTTTACTG | CTAAAAGATG | GCCAAAGTAT | TCAACAAGGC | GCTGTAGAAG | 4500 |
|    | ACATATTAAC | TTCTGAAAAC | ATGTCACGAT | TTTTCCAGAA | AAATGTAGCA | GTTCAAAGAT | 4560 |
| 50 | GGAATAATCG | ATTTTCTATG | GCAATGTTAG | AGTAAATATT | TTGCAAATAA | TAAGTAATAA | 4620 |
|    | TGACAAAATT | TAATTAAGAT | AAAATGGACA | GTGGAGGGCA | ATATGGATAA | CGTAAAAGCA | 4680 |

AAAGATGTCA TTAATCAATT GAGAGAGAAA GGATATAAAG TATTTTGGC AACAGGACGT 4800  
 TCGCATTCTG AAAATACATC AACTTG 4826

(2) INFORMATION FOR SEQ ID NO: 276:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4846 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 276:

GAATAAAAAG TAAAATTACT CGCCTTTGTT ACCTTTTACT TTATCAATaa AATCAGTTGC 60  
 TTTTCTTTT GCATTTTCAA CGAATTCTTT CGCTTTACCA GAAGCTTTAT CTTCTTTACC 120  
 TTCGTTTTCT AAATTTTAT TATCAGTAAC ATTACCTACT GTTCTTTAA CATTACCTTT 180  
 TGCTTGTTCA AATTTACTTT CGTCTGCCAT AATAAATGCC TCCTCGGAAT AATTAAATGT 240  
 TATATATAAT ACTTACCCAC TGAAAAATTA TCTAAACATT TTAATTAAAT AATTTTTGAT 300  
 ATTGATTTGA CGTCATTTTA TAACTAGCGA AATAGATTCA TCATTAAGTT GAGGGAGTGG 360  
 GACTGAAATA ATAAAGAATC ACTAATGATT TATGATGTAT TAGTCACTAG CCATGTGAAA 420  
 TTAAAAATAA GAATAAATGA GTAGCAGCA TGCATATAGG ATTTTACTTT ATCCGTAATA 480  
 GCATCTCATT CCTAAATATC ATATAAATAC CTGTTTAAAT TAAAAAGCCC AGCAACATCA 540  
 CGTTACTGAG CCATTAATAT GATTTATTTA GCAGGAATAA CTGCACCATT GTATTTTTCA 600  
 TTAATGAAGT CTTGAATATC TTTAGATTGT AATACTTCAA TTAATGCTTT GATTTTCTTA 660  
 TCATCTTGAT GTCCTTCTTT AACAGCAATT AAGTTTGCAT AAGGATTATC TTTCGCACTT 720  
 TCTACAGCAA TAGAATCTTT TTTAGGATTT AGTTTTTGTT CGATTGCAA GTTCGAATTA 780  
 ATGATAACAG CATCAGCGTC TTCATTTTGA TAAATTTTAG GTAAGAATTC TGCTGATTGT 840  
 TTATTATTAA ACTTAATATC TTTTTTATTC TCTGTAATAT CACTAACTT AGCATCTTCA 900  
 ATTTTTACGC CTTTTTTGAT TTTAATTAAA CCTGCATCAA CGAAGAATTT TAAGAAACGT 960  
 CCTTGTTTCA CTGGATTATT AGACACATAG ACTGTTGCAC CTTTTGGTAA TTCTTTTAAA 1020  
 CTTTTTAACT TTTTAGAGTA TACAGCCATA GGTTCTAAGT GAACATCACC GGCACCTACG 1080  
 ATTTTGTAAC CTTTATCCTT TTTCTCTGTG TTAAATATG GTGTATGTTG GAAATAGTTT 1140  
 GCGTCAATTT CACCTTTGTC TAGTAATTTA TTAGGTGTAG TGTAATCGTT AATTGTTTTA 1200  
 ATATCTAGTT CATAACCTTT TTTCTCTAAT AATGGTTTTG CTTTTTCTAA AATTTTCAGCA 1260

|    |            |             |             |            |             |             |      |
|----|------------|-------------|-------------|------------|-------------|-------------|------|
|    | TTACCGCAAG | CTGCTAATAC  | AACTGCAAAT  | GTTAATACTA | AAATAAGACC  | AAATAATTTT  | 1380 |
|    | TTCATAAAAT | GAAACCCCCA  | ATTTATCGTT  | TATCAAGTTT | ATTTGTAAGC  | CAATCCCCAA  | 1440 |
| 5  | TGAATTGGAT | TATAAATACA  | ATAATTAAAA  | TAAAAACTGT | TGATACTAAA  | ATGACATCAT  | 1500 |
|    | TTTGATTTCG | AGTGAAACCT  | GTTAAGTATG  | CTAAATTTCC | TAAACCACCG  | GCACCAATTA  | 1560 |
|    | CACCTGCAAC | TGCTGTTGAA  | CCAACTAAAG  | CGATTGCTGT | AACTGTAATG  | CCAGACACTA  | 1620 |
| 10 | GCGCTGGCAT | AGCTTCAGGT  | AAAAGGACTT  | TACGAATTAC | TGTCCAAGTA  | TTAGCGCCCA  | 1680 |
|    | TTGACCAAGC | CGCTTCGATG  | ACACCTTTAT  | CAATTTCTTT | AAAAGCAATT  | TCTACGAGCC  | 1740 |
|    | TTGCATAAAA | CGGTGctGCG  | CCAATGATCA  | AGGCTGGTAA | CGCACCTGTC  | GGACCACTTA  | 1800 |
| 15 | TCGTTCCAAG | TATCAAACCT  | GTAAATGGAA  | TTAATAATAA | AATTAAAAATA | ATAAATGGTA  | 1860 |
|    | TCGCTCTAAA | TAAGTTAACA  | ATGAAAGAAA  | CGATAGAATA | AAATAACCTT  | GCACCGATAG  | 1920 |
| 20 | ACTTACCTTT | AGCAGACAAG  | AATAATAACA  | CACCTAAAAT | AAGACCAAGT  | ATAAATGCAA  | 1980 |
|    | ATATAGTTGA | GACGACTGTC  | ATGTATAGTG  | TTTCGACTAT | TGCAGTCCAA  | ACTTCTGGCC  | 2040 |
|    | ACTGAATATT | AGGCATTGTA  | ATCATTTTCAT | TTATAATTTT | ACTAAATGAT  | TTACCCATGT  | 2100 |
| 25 | CTTAACACCT | CCATTTTAAAC | TTGTCGCTCA  | ATTAACTCTT | TTTCGAATTT  | TCCGAAATCT  | 2160 |
|    | ACACTTGAAA | TATATGGAAT  | ATGCAGAACT  | AAAAAGCCGA | CTGTTCCATT  | TTTGTATTTT  | 2220 |
|    | TTAATATTTG | CTTCTAAAAT  | ATTAATTTTA  | ATATCATAGG | CAGTTGATAG  | ACTCGATACA  | 2280 |
| 30 | ATAGGCTCGG | TTGTTGTTGA  | ACCAGCGAAA  | ACTAATCTAA | CGATATATGC  | ATCTTTTTTCT | 2340 |
|    | AATGGCTCTA | ATTCTGTAA   | AGATGTTTTG  | AAATCATCAT | TTAAATCGTC  | TTTCACAAAT  | 2400 |
|    | CGTTTTGTCA | CAGTGTGTTG  | CGGATTTTCA  | AAAACCTGTG | TCACCGGTCC  | TTGTTCTATC  | 2460 |
| 35 | ACTTTACCAC | TTTCATAAC   | TGCAACTTCA  | TCACAAATAC | GACGAATGAC  | ATGCATTTCA  | 2520 |
|    | TGCGTAATTA | GTACAATTGT  | TAAATTTTGT  | TGTTCTCTAA | TTTTTAGTAG  | TAGATCTAAA  | 2580 |
|    | ATTTTATCTG | TTGTTTGCGG  | ATCAAGTGCA  | CTTGTTGCCT | CATCACAAAG  | CAAGACCGTT  | 2640 |
| 40 | GGATCATTaG | TAACGCTCGT  | GCAATCCCAA  | CACGTTGCTT | TTGTCCACCT  | GATAACTCTG  | 2700 |
|    | ATGGATAAGC | CTTTTCTCTA  | CCTTTTAAAC  | CGACGAGTTC | GACAAGTTCT  | AATGCTTTTTT | 2760 |
| 45 | GCTTAGCTCT | CCTTCTAGGG  | ACACCTGCAA  | TTTCAAGCGG | AAACATAATA  | TTTTTTAACA  | 2820 |
|    | CAGTCCTTGA | CCATAACAAA  | TTAAAATGTT  | GGAAGATCAT | ACTTACTTTT  | TGTCTTTTTG  | 2880 |
|    | CTCTTAATCC | ATTTTTGGAC  | AATTGACCTA  | TATGGTCTCC | ATCTATAATA  | ACTTCACCTG  | 2940 |
| 50 | ATGTAGGCGC | TTCTAAATGA  | TTAAACATTC  | GAATCAAAGT | ACTTTTTTCCT | GCTCCAGAAA  | 3000 |
|    | AACCAATGAC | GCCATAAATC  | GATCCTGCTC  | GAATCGATAA | ATTAACGTGA  | TCTACAGCAA  | 3060 |

|    |   |      |
|----|---|------|
|    | TTCTCCCTG TGTGCTTAA TAAAAATAAA AATGCTTTCT CAATATCGAT AGAAAAATTG                 | 3180 |
|    | AGAAAGCAAT AGTAGTATTG TTTCTCTCAT CTTCAAAAGT TAAAACTTTA TGTGAATTGG               | 3240 |
| 5  | CACCATTTCT ATATAAGACG GTTGCCGGGC TTCGTAGGGC ACATCCCTCC ACCACTCTCG               | 3300 |
|    | ATAAGAGTTT ACGCATCATT TAATTTGTAT TAATCCTAAC ACCTTAGTAA AATTTTCGTCA              | 3360 |
|    | ATAACTATTT TAAATTTTCT AACAAATCAG TCACCGATTT AAATGCATAA ATTCGTTTTA               | 3420 |
| 10 | CTTCTTTATC TTTATTCATC AACAAATAAA TCGGCGTAGA CATGATTTGC ATATCTTTAC               | 3480 |
|    | AAAACGAGG ATAAAAGTTT AAATCTATTT TCAATAATGG TAACTGCAAT ATTTTCATTAG               | 3540 |
| 15 | CAATGTCTAA CATTCTTTCT GaAACCTTAC AAGTACCACA CGTTGGTGTA TAACCAAAGA               | 3600 |
|    | TTAAATGTTT GTCTTCCTCA TAAAATGTAG TTACATCTTT GATGTCTAAT GAATTATTCA               | 3660 |
|    | TTTACTAAAA CTAACCTTTC ATTATTTATA TTCGGTAAAA GAGGTGTTTC TTTCTTACAA               | 3720 |
| 20 | GTAAAGCCAT GTTTTGAAAG TACATGCGCC AAATATTGTT TGGGGCAATT CGCAACTTGA               | 3780 |
|    | CAGTAAGTTT TATCAATAAA TATATGTTCA CTTTCACTCA AATAACGTTT AAACCAATTT               | 3840 |
|    | CTAATTCGAT CTCCTTCGTC ATCAGAATCG GCTAATACAA AAACCTGTTT ATCATACAGT               | 3900 |
| 25 | GATTCTATCA TATCATCAAG CTTATCTATA CTCATTGTTT CATGAGTACA AATAATATTG               | 3960 |
|    | ACTGGTTCTG CAATAACCTG TTGCACCCTT TTTTATCAG ATTTTCCTTC AACAATTATC                | 4020 |
|    | ACTTTATTTA CAATAGCCAT CATCATCACC CTTTAAAATC AATAAACATC TGTCACTGTA               | 4080 |
| 30 | TCATTTTACA AAATTGGTAT GAATAAAACA TAAATCACAA AAAATTTTAA CTAGCTTAAT               | 4140 |
|    | ATAATAATTA CAAACTCAAT GTTTGACTAG CTGGAACATT TAACATAAGC AGACAAAGGC               | 4200 |
|    | TAAGTCAAAA ATCAACATCC TAAAATCTAC AATGTTATAT TAACAATAGT TAACCAAAG                | 4260 |
| 35 | AAAATACACC TATAACAAAC TTTTCAATTA TAGCGGGGCC CCAACACAGA AGCTGATGGT               | 4320 |
|    | AAGT <sup>E</sup> AGCTT ACAATAATGT GCAAGTTGGC GGGGCCCCAA CATAAAGAAA TACTTTTCT   | 4380 |
| 40 | TTAGAAATTA GTATTTCTTA TGCATGAGTT TTA <sup>E</sup> CTCATGT ATTCCTATTT TTAAATACAC | 4440 |
|    | ATTAGCTGTG GCTTATGAAA ACAGGCTGGG ACATAAATCA ATGTTCTATG CTCTACGA <sup>g</sup>    | 4500 |
|    | TTATATTGGC AGTAGTTGAC TGAACGAAAA TGCGCTTGTA ACAAGCTTTT TTCAATTCTA               | 4560 |
| 45 | GTCAGGGGCC CCAACACAGA GAATTTGAA AAGAAATTCT ACAGGCAATG CAAGTTGGGG                | 4620 |
|    | ATGGGCCCCA ACAAAGAGAA ATTGGATTCC CAATTTCTAC AGACAATGCA AGTTGGGGTG               | 4680 |
|    | GGACGACGAA ATAAATTTTG CGAAAATATC ATTTATGTCC CACTCCCTAG ATTGATCTAT               | 4740 |
| 50 | AGATACTACA CTTATTAAAG TAATATATTT TTATGATTCT CTTAGCTGCA ATCCCATGAA               | 4800 |
|    | TACATGTAAT CATCAA <sup>E</sup> CTT CATAGCCTCA AGGTCAGTAG ATTTCA                 | 4846 |

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1843 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 277:

|    |   |      |
|----|---|------|
|    | AACAAAGACA CAATCGAACA TGAACCATCA GTAAAAGCTG AAGATATATC AAAAAAGGAG   | 60   |
|    | GATACACCAA AAGAAGTAGC TGATGTTGCT GAAGTTCAGC CGAAATCGTC AGTCACTCAT   | 120  |
| 15 | AACGCAGAGA CACCTAAGGT TAGAAAAGCT CGTTCGTGTG ATGAAGGCTC TTTTGATATT   | 180  |
|    | ACAAGAGATT CTA AAAAATGT AGTTGAATCT ACCCCAATTA CAATTCAAGG TAAAGAACAT | 240  |
|    | TTTGAAGGTT ACGGAAGTGT TGATATACAA AAAAAACCAA CAGATTTAGG GGTATCAGAG   | 300  |
| 20 | GTAACCAGGT TTAATGTTGG TAATGAAAAGT AATGGTTTGA TAGGAGCTTT ACAATTAAAA  | 360  |
|    | AATAAAATAG ATTTTAGTAA GGATTTCAAT TTTAAAGTTA GAGTGGCAAA TAACCATCAA   | 420  |
|    | TCAAATACCA CAGGTGCTGA TGGTTGGGGG TTCTTATTTA GTAAAGGAAA TGCAGAAGAA   | 480  |
| 25 | TATTTAACTA ATGGTGGAAT CCTTGGGGAT AAAGGTCTGG TAAATTCAGG CGGATTTAAA   | 540  |
|    | ATTGATACTG GATACATTTA TACAAGTTCC ATGGACAAAA CTGAAAAGCA AGCTGGACAA   | 600  |
| 30 | GGTTATAGAG GATACGGAGC TTTTGTGAAA AATGACAGTT CTGGTAATTC ACAAATGGTT   | 660  |
|    | GGAGAAAATA TTGATAAATC AAAAATAAT TTTTAAACT ATGCGGACAA TTCAACTAAT     | 720  |
|    | ACATCAGATG GAAAGTTTCA TGGGCAACGT TTAATGATG TCATCTTAAC TTATGTTGCT    | 780  |
| 35 | TCAACTGGTA AAATGAGAGC AGAATATGCT GGTAAACTT GGGAGACTTC AATAACAGAT    | 840  |
|    | TTAGGTTTAT CTAAAAATCA GGCATATAAT TTCTTAATTA CATCTAGTCA AAGATGGGGC   | 900  |
|    | CTTAATCAAG GGATAAATGC AAATGGCTGG ATGAGAACTG ACTTGAAAGG TTCAGAGTTT   | 960  |
| 40 | ACTTTTACAC CAGAAGCGCC AAAAACAATA ACAGAATTAG AAAAAAAGT TGAAGAGATT    | 1020 |
|    | CCATTCAAGA AAGAACGTAA ATTTAATCCG GATTTAGCAC CAGGGACAGA AAAAGTAACA   | 1080 |
| 45 | AGAGAAGGAC AAAAAGGTGA GAAGACAATA ACGACrCCAA CACTAAAAAA TCCATTA ACT  | 1140 |
|    | GGAGWAATTA TTAGTAAAGG TGAAyCgAAA GAAGAAATCA CAAAAGATCC GATTAATGAA   | 1200 |
|    | TTAACAGAAT ACGGACCAGA AACGATAACA CCAGGTCATC GAGACGAATT TGATCCGAAG   | 1260 |
| 50 | TTACCAACAG GAGAGAAAGA GGAAGTTCCA GGTAAACCAG GAATTAAGAA TCCAGAAACA   | 1320 |
|    | GGAGAyGTAG TTAGACCACC GGTTCGATAGC GTAACAAAAT ATGGACCTGT AAAAGGAGAC  | 1380 |

|    |   |      |
|----|---|------|
|    | CCAACACTAA AAAATCCATT AACTGGAGAA ATTATTAGTA AAGGTGAATC GAAAGAAGAA | 1560 |
|    | ATCACAAAAG ATCCGATTAA TGAATTAACA GAATACGGAC CAGAAACGAT AACACCAGGT | 1620 |
| 5  | CATCGAGACG AATTTGATCC GAAGTTACCA ACAGGAGAGA AAGAGGAAGT TCCAGGTAAA | 1680 |
|    | CCAGGAATTa AGAATCCAGA AACAGGAGAT GTAGTTAGAC CACCGGTCGA TaGCGTAACA | 1740 |
|    | AAATATGGgA CCTGTaAAAG GAGACTCgAT TgTaGGAAAA AGarGAATTc CaTTCaGGAA | 1800 |
| 10 | AGAcGTaATT TaTCCTGTTT AGCACCCGGG GCAGAAAAGT TAC                   | 1843 |

## (2) INFORMATION FOR SEQ ID NO: 278:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 8536 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 278:

|    |  |      |
|----|--|------|
|    | TAAACAGCGC GTGTACTTGT GATTCCCCCT TCTTCTATTT TACCCACCCG GGAAATAATA  | 60   |
| 25 | CTTTTCGCGA TTCCTTACTT GaACAAGCAA TATTTTATCa GCTGTTTCTT CAACTAAACA  | 120  |
|    | GACACATTtA ATCATCTTTG ACACCCCAAC TTTGTGAAAT CAATTTTTCa AATTATACTG  | 180  |
|    | TACAATTATG TTATCATATA TGAGTAGTTA TAGCGCAAAA CGTTAGCAAT TCAGCGCACC  | 240  |
| 30 | CAACTTTTCA TATAAACAGA AGATACTAGG GGGAAATTATT ATTATGGCAA AACgTTCCAA | 300  |
|    | ATCACAACGT TTATCAAGTT TACTAAATGT CGCAGGTTTC ATAGTCGACG GCTACAATGG  | 360  |
| 35 | CTATAAATAT CATGCTAAAA ATAAAAAATT AGTATATCTT TCATTAGGTT TAAGCACTGT  | 420  |
|    | AGGAACCGTG TTAGACTTTT ACATTTCAAT TAAGTCACCA CGTAAGTTCA AAAAAGCAGT  | 480  |
|    | GGCAGTTGTT ACTTTAATAA CAAACGGTGC TAGATTATTT ACAAGCATTc GCAAAGTAAA  | 540  |
| 40 | ACATGAATAC TAATTcAGAA AAGGATTGGT CGAACATAGA ACATGAAGTT CATTcGACCA  | 600  |
|    | ATCCTTTTTC ATATACAAAA ATTCCTATTA CAACAATCAC GACTTTGATA GCCCCGCCAT  | 660  |
|    | AAAATTTAGG ATTCAATCCA ACTTTTCAGC TTGTGaAATG TAATAGGaAT TCATTATATA  | 720  |
| 45 | TTTATATACG TAAGACTTTA GTGAATATAT CTATAATTAT TTACTTGGTA AGCTGGTACC  | 780  |
|    | GTTCTGTAAg TTAAAAATACC TGGTGcAGCT GAATAGTTCA TTTCTGAAAC TAAAATACTA | 840  |
|    | CCATCGTTAT TTACACGTTc TACAAACATA ACATGACCAT AGTAACCTAC ATCTGTTTGA  | 900  |
| 50 | GCGATAGAAC CTACAGTAGG TCTATTGTCG ATAGTGTAAC CATCTGCTGC CGCTGCGTTA  | 960  |
|    | TCCCAGTTAT TAGCATTCCA CCAATAAGTA CTAATACCTT TACCAATTTc AGCACGACGA  | 1020 |

|    |             |             |             |            |             |             |      |
|----|-------------|-------------|-------------|------------|-------------|-------------|------|
|    | GTATTGTAAC  | CTCTATTTGT  | CGTTGTTGCA  | GATCCTGAGT | TCGTAGATGC  | aTTACCAGTT  | 1140 |
|    | ACTTTCAATT  | TTTGACCCGG  | ATATATAAAG  | AAATTATTTA | AGCCATTTAA  | GCTCATAATT  | 1200 |
| 5  | TTTTGATAAG  | TTGTACCATA  | TTTTGATGCA  | ATTAATGACA | ATGAGTCACC  | TGCTTGTA CT | 1260 |
|    | GTATAGTATG  | ATCCGCCACC  | TGAGTTCGTT  | GATGGACGGC | TACTATTGCT  | CGCAGCGTTA  | 1320 |
|    | CTTGAGCTAG  | CAGTACCTGA  | TACTTTTAAT  | TTTTGACCTG | GATAAAATAAA | GAAATTATTT  | 1380 |
| 10 | AAACCATTA   | GTCGCATAAT  | GTTTTGGTAA  | GTTGTACCAT | ATTTTGATGC  | GATTAATGAT  | 1440 |
|    | AATGAGTCGC  | CTGCTTGTA   | TGTGTAGTAT  | GATCCGCCAC | CTGAGTTCGT  | TGATGGACGG  | 1500 |
|    | CTACTATTAC  | TCGTAGAATT  | ACTTGAGCCA  | GATACTTTTA | GTACTTG GTT | TGGGAAAATT  | 1560 |
| 15 | AGATTAGATG  | TTAAATTGTT  | TAATGACTTT  | AATTTAGCAA | TCGAAATCCC  | ATACTTATTT  | 1620 |
|    | GAAATTGCC   | ACACTGATTC  | ACCCGGTTTT  | ACTGTGTGAG | TTGTAGCCGC  | ATTTGCTTGA  | 1680 |
| 20 | GTTGCCGCAA  | CAGCGCTAAT  | CGCGCTTGTC  | CCAATAATAG | CTGCAATTAC  | TTTTTTTTGC  | 1740 |
|    | ACTTTAAAAT  | CCTCCTCTTG  | CTTAACTTTC  | CTAACATTCT | TTATCCGAA   | TTTATGAATA  | 1800 |
|    | CTACATCATT  | ATACGATTTT  | ATTATGTATA  | ATAGGTTGAT | GTTTGATGAC  | ATTATGaTTA  | 1860 |
| 25 | CAAAAAATC   | ATATACTGTA  | TCATCAAATT  | TTATAATTAT | CCCTTAAAAT  | TATTACAACT  | 1920 |
|    | TATTAGATTT  | TACAATATCT  | AAATTATTAC  | AATTTCATAA | TATTTCACTA  | TAAAATGATT  | 1980 |
|    | ACAATCCCTT  | TCTCTATTGG  | AAATAATTTT  | ATTCTCCAAC | AATAACGCCC  | TACAAACATA  | 2040 |
| 30 | AGCATGAACT  | TTGCTTGTA   | GACGCAATAT  | AATTTATTTT | GCTAATGACG  | TTTCTATTGC  | 2100 |
|    | CTTAATCTCA  | TCTTTAGATA  | AATTAACAGG  | TTTCTCTCCA | TCTTTGACAT  | CTTCCTGCAA  | 2160 |
|    | CGCTTTTTGA  | GCTTCTTTTG  | AATGATACAA  | TTCTACGATT | TTAGCATATG  | TTTTGTTATC  | 2220 |
| 35 | CAAGTCTTTG  | TCATTAACTG  | CAACAATATT  | AATATATGGC | TTACTGCAT   | CTGAATTTGA  | 2280 |
|    | TTTTTCTAAA  | AATATCGGAT  | CATTTTTTAGG | ATCTTTACCC | GCTTTAGTTG  | CTACACCGTT  | 2340 |
| 40 | ATTAATAACT  | GCAATATCGA  | CATCAGATAA  | AGCACGTGCA | GTTTGTGTG   | CATCTACTGC  | 2400 |
|    | AGTAATTTTT  | AAATGTTTTG  | GATTTGACGT  | TATATCTTTC | ACCGTGCCTG  | CTAATCCGAA  | 2460 |
|    | ATCTTTTTTTC | AGTTTTATTA  | AACCAGCTGC  | TTCTAATAGT | TTAAGTGCAC  | GTGCTTGGTT  | 2520 |
| 45 | TGACACATCA  | TTTGGAATGA  | CAACTTTAGC  | ACCATCTTTA | ACCTTTTTTGA | CATCTTTAAT  | 2580 |
|    | TTTATCTGAG  | TAAATGCCCA  | ACGGTGCTAA  | AACTGTTGTA | CTTAATGCTG  | AAATCTTTGT  | 2640 |
|    | TCCTTTATGC  | GCCTTTTTTAT | ATTGATCTAA  | AAATGCAAAA | TGTTGGAATG  | CATTCATATC  | 2700 |
| 50 | AATATCACCA  | TCATTTAATG  | CTTTATTCCG  | TAAATTGTAA | TCTGAGAAGT  | GCTTAATCTC  | 2760 |
|    | ATCTTTTCTT  | TACGTAATTC  | TTTAACTTTC  | TCCCAAGCCT | TAGTGTCA TT |             | 2820 |

|    |             |            |             |            |            |            |      |
|----|-------------|------------|-------------|------------|------------|------------|------|
|    | AAGTGCTACG  | ATAACTAACC | CAATCAATCT  | TTTCATTCTA | TCAATTCCTT | TCAAAATCTT | 2940 |
|    | CACTATATAT  | CATTAATGTC | TACGTATGAA  | TCTAGCTAGA | ACATTCCCTA | GCGTTTGAAT | 3000 |
| 5  | CACCTGGACA  | ATAATGACTA | ATACAATAAC  | GGTAATAATA | ATGACCGTCG | TATCAAATCT | 3060 |
|    | TTGATAACCA  | TACACTAAAG | CTAAGTCTCC  | TATACCACCA | CCGCCAACAG | CTCCTGCCAT | 3120 |
|    | CGCCGTACTT  | CCAATAAGTC | CAATAATCGC  | AGTGGTAATT | GCTAATACTA | ACGAACCTAA | 3180 |
| 10 | AGCTTCAGGA  | ATTAAAAAAT | ATCTAATGAT  | TTGTAGTGGT | GAAGCGCCCA | TCGnTTTCGC | 3240 |
|    | CGCTTCAATA  | ATCCCCTCGT | CTACTTCCAA  | TAATGAGTTT | TCAACAAGTC | TTGCAATGTA | 3300 |
|    | AGGTGCCACA  | TATACTGTTA | AAGGCACGAT  | GGCAGCAGTC | GTACCAATTG | AAGTACCTAC | 3360 |
| 15 | TACTAATTTT  | GTGAATGGCA | CAATCGCAAT  | TAACAAAATA | ATAAATGGTA | GTGACCTTAA | 3420 |
|    | AATATTGATT  | AAAGGATTTA | AAACTTGATG  | TATCACTATA | TTGGGCCATA | TGCCTTGTTT | 3480 |
| 20 | TCGAGTAATT  | ACCAATAAGA | CACCTAATGG  | AATACCAATC | ACTGCTCCTA | AAAATAAAGC | 3540 |
|    | AATAGATACC  | ATATATAGCG | TTTCGTACAA  | TGCTTGTAAT | AACTGTGCAC | TGTCTAAATC | 3600 |
|    | AGAACCAAAC  | ATATGTTAAT | GcACCTCCTC  | AAATTGAATA | TTTTTCTCTT | TGAAATATTG | 3660 |
| 25 | ATTTATTGCC  | GTGTCTTCAA | ATTGTTGATC  | CATATTAAAT | CGAAGCCACA | TATAACATAC | 3720 |
|    | GGTGTTACCT  | TGTATTTCTG | ACATAGATGA  | AAATAAAATT | TTAACCTCTC | TGCCACAAAT | 3780 |
|    | TTGAATCAAG  | TCATTTATAA | TCGGTTGTGT  | CACCTGAGTT | TCCTCGACGA | AGATTTTATA | 3840 |
| 30 | ATCTTTAAAA  | TCGCCAACTT | GTTTCGTCAAT | CAATCGACGA | ATCAATGATG | TACTTGCGTC | 3900 |
|    | AGTCTGTATA  | ACTGTAGACA | CAAAATTTTG  | AGCAATCGTC | GTTTTAGGAT | GACTAAACAC | 3960 |
| 35 | CTCTTTAAcA  | GTTCTGTGTT | CAACCACTTT  | CCCCTTTTCC | ATTACAGCAA | CACGATTACA | 4020 |
|    | AATGTCTTTA  | ATAACGCGCA | TTTCATGTGT  | AATCATCATA | ATTGTAATGC | CAAAGGTTTG | 4080 |
|    | ATTGACATTTC | TTTAATAACG | TCAATATCGA  | AGCAGTCGTT | GCTGGATCCA | ATGCGCTTGT | 4140 |
| 40 | TGCTTCATCG  | CATAGGAGTA | TTTTCGGATT  | AGTAACAAGC | GCTCTTGCAA | TAGCCACCCT | 4200 |
|    | TTGCTTCTGC  | CCACCAGATA | ATTCATCAGG  | AAATTGGTCT | TTTTTATCAC | TCAATCCTAC | 4260 |
|    | AAATTCAAGC  | ATTTCCGTTA | CTCGTTGCTT  | AATTTCTGTT | TTGCTTTTCT | TACTTAAAT  | 4320 |
| 45 | GAGTGGCATT  | GCTACATTTT | TAAATACGGT  | AGCTGAATTT | AATAAATTGA | AATGCTGAAA | 4380 |
|    | TATCATACCG  | ATATCTTTCT | TAATATCCCT  | CATCATTTTA | TCGCTATAAT | TCGTAATATC | 4440 |
|    | ATGTCCATCT  | ACAATCACTT | GTCCATTCGA  | GGCAGCTTCA | AGATGATTCA | CGAGTCTTAC | 4500 |
| 50 | CAACGTACTT  | TTTCCTGCAC | CACTATATCC  | AATCACACCA | AAAATATCAT | TGCGATTGAC | 4560 |
|    | CGTAAATGAT  | ACGTCCTTCA | AAGCATCTAT  | TTTTTGCTTC | TTTTTATTAA | AGGTCTTACT | 4620 |

|    |  |      |
|----|--|------|
|    | TAAGAGCATT ATATGTAAAA TTGCATATAT CGTCAATACA ATTTGCCGAA TTTTCTAAAA  | 4740 |
|    | AATTAAAAAA TAAGTAATTC ATGTGACAAT GACGAATTGT GAGACTACTA TGACATTTAT  | 4800 |
| 5  | CAAATTAAAT CCATAAAAAT GTCCACCAAT CCTCCACAAC GCAATTACTA AATATTAACA  | 4860 |
|    | TCGCACAAAA AAGCACTAGC ATATTCAAGA ACAACAAACG TTGAACTCAA AATATATGCC  | 4920 |
|    | AGTGCTGCTA TTATTTATAA AGTATCTAGT GCTTGTTTTA AATCATCGAC TAAATCTTCA  | 4980 |
| 10 | GTATCTTCAA TACCTACAGA AATTCTTACA AGTCCGCTG TAATACCTTC TTTAGCTCGA   | 5040 |
|    | ATATCTGCTG GAATGGATGC ATGTGTCATC AATGCAGGTA CTGAAATTAA ACTTTCCACT  | 5100 |
|    | GCACCTAAAC TTTCAGCTAA TGTGTAATAC GATGTTGCTT TAATCAATTG TTTGGCACTT  | 5160 |
| 15 | TCTGTATTTT TCACTTCAAA TGCAATCACA CCTGTATGGC CATCCGCTTG AGCCATATGG  | 5220 |
|    | ACATCATGAT TTAAATGACT TTCAATACTT GGATGGAACA CTTGTTGCAC AGCTGGATGT  | 5280 |
|    | GCTTGTAACA TTTTAATAAT TTCAATAACG CTGCGATTAA TTTGTTCCAT ACGTAAACCT  | 5340 |
| 20 | AATGTTTTAA TACCCCTCAC AAGTAAATAG CTATCTTGAG GTCCTAAAAAT GCCACCTGTT | 5400 |
|    | GAATTTGAAA TAAATGCTAA ACGTTCTGCA AGCTTGTCAT CCGATGTTGC AACTAAACCA  | 5460 |
|    | GCAACGACAT CACTATGTCC ACCTAAATAT TTCGTTGCAG AATGTAAGAC AATATCGATA  | 5520 |
| 25 | CCTAAATCTA ATGGATTCTG ATAATAAGGT GTCATAAATG TGTATCAAC AACTGAAATC   | 5580 |
|    | AAACCGTGTT CTTTCGCAAT TTCAGCAGAC TTTTAATGT CAGTAACACG TAATAATGGA   | 5640 |
| 30 | TTAGAAGGTG TTTCAATAAA CAACATCTTT GTTGTGGGC GTATCGCTTG TACAATTGAA   | 5700 |
|    | TCTGTATGCG TTGTATCTAC AAAATCCACT TCAATGCCAA ATCGTGTAAT TACTTTTGTC  | 5760 |
|    | AATGCGCGAT AAGTACCGCC GTATACATCT GAATTTAAAA TAATATGATC TCCTTTGTCC  | 5820 |
| 35 | AACAGCATAA CAACTGCACT GATTGCTGCA ACACCTGAAC TAAATGCAAA GCCATGTTTG  | 5880 |
|    | CCATTTTCTA ATGTCGCAAT AACGCTTTCT ACAGAACTTC TTGTTGGATT CGCAGTACGA  | 5940 |
|    | GAATATTCAT ATCCTTGACG TAAATCACCA ATATCATCTT GTAAATATGT ACTTGTTTGA  | 6000 |
| 40 | TAAATTGGTG TTGTAACGGC ACCTGTATAA TCGTCTGTTG TGTGCCCACC ATGAATTAAT  | 6060 |
|    | TTAGTTTTCT TGTTCAATTAT TATTCTCCTC ATAATTAAAT ATTTGCTTAG ACATATATCG | 6120 |
| 45 | ATCACTACCA TCTGGAAATA CGACAACAAT CGTACCTTCA GATAATTGCG CTTTTAAATT  | 6180 |
|    | CAATGCACCT TGTAATGCTG CACCTGaAGA ACTGCCTACT AACAACCCTT CATTTATAGC  | 6240 |
|    | CAAACCTTTG ACATTTTCGAA AGGCATCTTG ATCTTTAATC GTAAATATCC CATCTACAAG | 6300 |
| 50 | ACGTCTCTCT AAAAATATCG GCCATTTCTC AGAACCGATA CCTTCAGTGT CATGTGCATG  | 6360 |
|    | ATGCTGCTG TGGCTCAACG GCATAACATT GCACGTGATG                         | 6420 |

|    |  |      |
|----|--|------|
|    | ATAATCAATT TGCTGTAATG CTGAAGTCAA TTCGGGTCCC AATGTATGAA AATATGTATC  | 6540 |
|    | CGGATTATGT TCGGATTCAA ATTGATTCAT ATAAACGGCA CCATATTTTT CAGCATAGGA  | 6600 |
| 5  | ACGTGCAGCT AATTGTGCCC CATGCATACC TTCAGACTGA CTCGTCCTTG AAACCTTCTGC | 6660 |
|    | ACCAAGCGCT ATCATAATAT TAATCTTTTC TTCTGAAAAA CCATACGGCG CAAAGATCTT  | 6720 |
|    | ACATTTCAAA TGATGTCTAT TCGCTGCAAT AGCTAACCCCT ATGCCTGTAT TACCAGCAGT | 6780 |
| 10 | CGCTTCAACA ATAGTTTGAC CTGCACGCAC ACGCCCTTCT TGAATTGCCT TCTCTACTAA  | 6840 |
|    | ATATTTCCCG AGTCTGTCTT TAACACTGCC TCCAGGATTC CATTTGTTCAA GCTTGGCATA | 6900 |
|    | AATTTTAACT TTATCATCAC TATAATGTTT TAACAGTACT AATGGTGTAT TGCCaATTAA  | 6960 |
| 15 | ATCATAAGTA ATCATAGATG CACCCTCATC TGACATGCCG ATCAAATGAA TGAAACCTTT  | 7020 |
|    | CTTCATGTCT CAATTTTAAT TCTTACTTTT CAGATAAGAA TTATAAACGA CATTTTGTTA  | 7080 |
| 20 | TTTTGCAATT ATCTAAGTTT CGATTAAATC AGAACCAGTA CTAAATTTTC AATTCCAAAC  | 7140 |
|    | AAAAAAACAC CTGAGCAACA CAAATACTTG TGTGTCAGAT GCTTCTATAT ATTAACATAA  | 7200 |
|    | TAATTGCACG ATAAAGACTA AAATAATAAC GACAGGCATC GCATACTTAA TTAAGTAATA  | 7260 |
| 25 | CCAACCACTG AATAATCTAA ATCGATCTTT ACCAAAATAT TGTGTGTAATA ATTTTTTATC | 7320 |
|    | TAATAATTGT CCTACGACAA GCGTAGTACC TAATGCGCCT AATGGCATCA ATACATTCGA  | 7380 |
|    | AACGATGAAA TCCATATTAT CAAAAATCGT TCCCGCACCG AATCTTACAT CTTTTAAGAT  | 7440 |
| 30 | ACCAAAAGAT AAGGTTGCTG GAATACTAAT GATAAATACT AAAATACTAC CGATCACTGC  | 7500 |
|    | GACTTTTTTA CGTTTTGTAT TGTCAATCTT CGTGAAGTTA GAAACATTTA ATTCTAATAA  | 7560 |
|    | AGAAATAGAT GACGTTAAAG CCGCAAATAA GAACAGCACT AAGAATCCCA AATAGAATAA  | 7620 |
| 35 | TGTGCCTAGA TGCATTTGAC TAAAGACCAT TGGCAGTACT TTAAATAATA ATCCAGGCCC  | 7680 |
|    | TTCTTGTGGT TCATAGCCAA AACTATGTAA AGCCGGAAAT ATAGCTAGAC CTGCCAATAC  | 7740 |
| 40 | AGATACAAAG ATATTCATAA CAACGATAGA AATAGCTGAT GACTTAATCG TCATGTCTTT  | 7800 |
|    | AGAGGCATAA CTCGCATAAG TAATCATACC TGTAGTTCCT AATGATAACG TAAAGAATGA  | 7860 |
|    | TTGACCTAGC GCAAACAAGA TGCCATCAGC AGTAATCTCT GATACTCTTG GTTGTAATAA  | 7920 |
| 45 | AAATTTTACA CCTTCTAAGA CGCCATCTAA TGTAAAGAC TTAATCACAA TGACGATTAA   | 7980 |
|    | AAAGACAAAC AGCAATGGCA TCATAACTTT CGATGCCTTT TCTAATCCTT TTTCAACACC  | 8040 |
|    | TAACATGACA ATAATCATCG TAGCGAATAT GAATATACCT TGCCCTAGAA CGGTAAACCA  | 8100 |
| 50 | AGGATTTGAT ATTACCGCTT CAAAATTCAT TTCTTGGAGA TGATTGATGC GTTGAAATAT  | 8160 |
|    | AACTAATTGC CATAATACTT GTCCGATGTA AATGACAATC CAACCACCGA TAACACTATA  | 8220 |

|    |   |      |
|----|---|------|
|    | TTTACCAGTT AATTTACTAT ATATTTGTGT TGTATATGTC CGTCCCATT TCCCAACAGT  | 8340 |
|    | GAATTCCATA ATGAGTAATG GCAACCCAAC AAAAATGGTG AATATTAAGA ACATAGCTAG | 8400 |
| 5  | AAAGGCACCG CCGCCATAAA TCCCTGCCAT ATATGGGAAT TTCCACATGG CACCAAGACC | 8460 |
|    | GATTGCAGAA CcCGCACTAG CTAAAATAAA TCCAGTTGAT GACTTCCATT GTGATTGTTG | 8520 |
| 10 | TCTTTTCATC ATTCAC   | 8536 |

## (2) INFORMATION FOR SEQ ID NO: 279:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4328 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 279:

|    |   |      |
|----|---|------|
|    | GCITTGGCCA TTTTATGTGG CGATTGAGAC AATCtGtKGT TGTCTTATTT GATGTTGTAT | 60   |
|    | TTCAACTGGT AATTCTAGTT GCGATTGAAA TAATGGCAAC TTTTCCCAAT CATTACAAA  | 120  |
| 25 | TAATTCAATA CCTGCTATGT CTAATACTTT AGCACGTGCA TCATCAACAA GACGGCGTTC | 180  |
|    | CAATTGATTT GCTTCTTCTT TAATACCTGG TGACGTACTT TCTAATATCA AATTAGATAT | 240  |
| 30 | AGGGATGTGA CCATTAATTG CATAATATAA TGCAACACGC CCACCCATTG AATATCCAAA | 300  |
|    | CAATGTTATT GATTTATCTT TATATTTATC TAAAATTCCG TCTAACAACG TCGTAATATA | 360  |
|    | ATCAAAATTC CACGTTTCAT CCATTGAAGA CTGATCTTCG CCATGGCCTG GTAAGTCTAT | 420  |
| 35 | AGTGATGACA TGATAGTTAT CAGTAAATTT TTCGATGTGA TTATGATAAG TACGGCTGTC | 480  |
|    | GCTAAGAAAT CCATGCAGAA ATACTAAAAC TTGATTGGTC TCAACGTTTG CTTCATAAAA | 540  |
|    | TTTATAATGT GTCATGAATC ATTTCACTCA ATTTCTGGTA TAAAATTTGA TGCTGTTTAA | 600  |
| 40 | AGTTATCTTC GCGATTCGTT ATCAATTCAT AAATCGTCGA AGTTTCAGAT AACAATGTGG | 660  |
|    | CATTTTTTAA TTCTGAAACA CTGTTAAAAC GTTTAAAATC GAATTGATAT AACTTAGCTG | 720  |
|    | TATACTCGAA ATCCAATCCC GTCGGTGTGC CAAACAACCG TTCAAAATAG TCAGTTGCAC | 780  |
| 45 | TTTCITTTTG TGGTAAATAT GAAAAAATAC CGCCACCATC GTTGTTCAAT AATACAATAT | 840  |
|    | TCATCTGAAT ATTATTTAAT TTTGACATTA ATAGTCCATT CATATCATGA TAAAATGATA | 900  |
| 50 | AATCACCTAT CAATAATGTT ATTCGTTTAT GCACAGCCAT ACCCAGTGCA GTTGAAACGA | 960  |
|    | TACCATCAAT ACCATTCGCA CCACGATTCG CATAGACATC TATATTTTTT TTCAATAACA | 1020 |

... .. 1080

|    |             |            |            |            |            |            |      |
|----|-------------|------------|------------|------------|------------|------------|------|
|    | TAATTTCTTT  | ACGCCCTTTT | TTCTCTAAGC | ATTGCCATTT | TTCTAACCAA | CTTACGCGAT | 1200 |
|    | TAACTGTCGT  | GTCTTCCATT | AATGACCTAA | AGAAATCATT | CGCAGAAATC | TCATATGAAA | 1260 |
| 5  | TATCTGGCGC  | TATCGGAAAG | ACATCAATCT | TATCATTGTT | TTGCACTAAT | ATTTGAAATG | 1320 |
|    | CATCAGTTTT  | CTTTAACCAT | TGATTTAACT | TTTTAGAAAT | CACTGGTTTC | CCAACACGAA | 1380 |
| 10 | TTACGAAATC  | CACATTTAAG | TCTAAGCCGC | TTCTAAACAG | CAAATCATAT | GTACAGATAA | 1440 |
|    | CATTTCGGATG | ATCAAATTTT | CTTAAATGAC | TTAAAGGATC | AGCTAAAATA | GGCAAATCAT | 1500 |
|    | ATATCGTTGA  | ATACGTTAGT | ATTTGaTCAA | CTTCTTGGTG | CTGCATATCC | CCTACAATAA | 1560 |
| 15 | TTAAACCTTT  | TTTCTTATTT | AAAATGTGTC | TTAATGCCGA | TGCATCTATA | CTTTTTTGAT | 1620 |
|    | AGTGCGGTAA  | AATCTTCATC | TCAGAAGTTA | ACAATTCTGT | TGCATTCAAA | TCAGGTGTTA | 1680 |
|    | ACGGATCTCT  | AAATGGCAAG | TTAAAATGAA | TTGGCCCTTT | ATGTGGTCCA | TATAAATATT | 1740 |
| 20 | GACTAGCAAT  | TTGCATTTGA | TAGTAAATTG | CATCAATGGT | CTCTTTACTA | TCATCCGCAA | 1800 |
|    | TAGGCATATC  | GAAGTCATAA | CTTACATAAT | TATTAACAT  | ATTTACTTGA | TTAATCGCTT | 1860 |
|    | GTGGTGCGCC  | TACACTTCTT | AATTCATGCG | GACGGTCACT | TGTTAAAACG | ATTAAAGGAA | 1920 |
| 25 | TTCTACTAAT  | TTGGCTTTCA | GCAATTGCAG | GCGTATAATT | CGCTGCTGCT | GTACCTGACG | 1980 |
|    | TACATAATAT  | AGCGACAGGT | CTTTCCTGCG | CTTTAATTAA | CCCAACTGCA | AAAAACGCTG | 2040 |
| 30 | CACTTCGCTC  | ATCGGGGTGT | ATCCATGTTT | TAATATTTGG | ATGTGCTTCA | AATGCAAGTG | 2100 |
|    | CAAGTGGCGT  | TGAGCGTGAT | CCCGGACTGA | TAACTACTTC | CCTTACGCCG | TACGCATATA | 2160 |
|    | ACTCAGATGC  | AAATGTAAAA | ACTTGCTTCG | TTAAAGCTGC | TTTATGATTT | CCCATTGATA | 2220 |
| 35 | TCGACTCCTA  | ATGCATTCAT | CATAGGTGTG | AACTTAAGGT | TCGTTTCTGC | CAATTCATA  | 2280 |
|    | TCTGGATCAG  | AATCTTTAAC | AATGCCACAC | CCAGCAAATA | AAGTTGCTTG | TGCTTTCTTA | 2340 |
|    | ATAAGCATCG  | AACGAATTGC | AACAATAAAT | TCACAATCAT | CGTATATATC | TATATAGCCA | 2400 |
| 40 | ACCGGTGCAC  | CATATAATCC | TCGCGTACCA | AATTCTTTCT | GCTCAATAAA | ATCCATTGCA | 2460 |
|    | AATTCTTTTG  | GATAGCCACC | TAAAGCAGGT | GTTGGATGTA | AATTATCAAT | TAAACTAATA | 2520 |
|    | TACGAATCAT  | CCTTCAGTGG | CGCCTTTATT | TCAGTGACAA | AGTGATATAA | ATGATCATT  | 2580 |
| 45 | TTTAGAATTT  | TAGGCGTCTT | ATCATAATGT | AATTCAGTGA | TATAAGGTTT | AATATCATGT | 2640 |
|    | AAAATACTGT  | CAACAACAAA | TCGATGTTTC | ATTAAGTTTT | TATTATCTTT | TAAAAATGCT | 2700 |
| 50 | TCAACATTTT  | TTGTATCTTC | GTCCTCATCT | TGTGAACGTT | TAATTGTACC | TGCTACAGCT | 2760 |
|    | TTAGTCGATA  | GTATTTTATT | ATTGACCTTT | ATTAATTGTT | CAGGTGTTTG | TGAAAAGAAT | 2820 |
|    | ATAGAATCTT  | GTGATTCTAA | CAAGAATATA | TAACTGTTTT | TTTCTTTAGA | ATATGCTTGC | 2880 |

|    |  |      |
|----|--|------|
|    | ACAAATTTTT CTTCATTATT AATAGATTCT ATAGCTTCTA CTACAAGTTG ACGCCAGTCA  | 3000 |
|    | TCTTTATAAA TATCTTCATT TCTAGTAATT TCCCCAATTT GCTCGTCCAC ATCTATGTCC  | 3060 |
| 5  | GATATATTGT TGAACAAATC CATTAAATCG TTCAATGCCT CAACAGTAAA ACTTTCCCTT  | 3120 |
|    | TTAACTGTAT AAGTTAAAAA TGTCCCATTA TTATCAGTTG AAATTAAAAAC TTCAGGTAAT | 3180 |
|    | ACAAAATGAT TTAGTCCAAA CTCTCGCCAT TCATCATCTG ATTTATGACT TGAAAATTGG  | 3240 |
| 10 | AACCCTCCAA CAACTCGAAG ATGATGTTTC TCAGATTGCG GATGTATAAA TGTGATGTTA  | 3300 |
|    | TGTTTTAATT TTTCCAGTC TTTAAAAATA GATTGTTTAT TTTTAGAATT ATTTTTGAAT   | 3360 |
|    | AATTGAATTG CTTTGTAGCC AAAATATGAC GTTCGATTAT CATTCAAACG CATATAAAAG  | 3420 |
| 15 | CGATCTCCTG CCTCATTGTC AGTGAGATGA AATAATGTGC TCGGGTCTAG TGAAGTGTAT  | 3480 |
|    | AATTTCACTT CAACTGAAAC CCATTCCCTT GAGCTGCCAT ATATCTCTTT GACAATATCG  | 3540 |
|    | TCCTCTAATA CGCCCGTAGC CATCCATTTT ACTTCTTTCT TCGTCTTTTT TCACTCATTA  | 3600 |
| 20 | TTATATTGTA TCATTTTTGG ATAATTGTGT TACAAGAATT GCTTAAACTT ATCTTGCAAT  | 3660 |
|    | TTTTACGTC AATTGACCTT TATGCTACTT TCTATTAAAA TATCTTTGTT ATAAAAAATA   | 3720 |
| 25 | TGATTTAAAG AGGTTTTGTA TTCAATGAGT AATCAATATC AGCAATATTC TACAGTTAAG  | 3780 |
|    | AAATATTGGC ATTTAATGCG TCCTCATACA TTAAGTCTT CCGTAGTACC CGTTTTAGTT   | 3840 |
|    | GGTACAGCAG CATCTAAAAT ATATTTTCTT GGTAGCGAAG ATCATATTAA AATCAGCCTA  | 3900 |
| 30 | TTCATTGCCA TGTTACTAGC ATGCTTACTT ATTCAAGCAG CAACTAATAT GTTTAATGAA  | 3960 |
|    | TACTATGATT ATAAAAAAGG CCTCGATGAT CATGAATCTG TAGGCATTGG TGGTGCCATT  | 4020 |
| 35 | GTTGCAACG GTATGAGCCC AGAGCTTGTG CTACGATTAG CCATTGCATT TTACATCTTA   | 4080 |
|    | GCAGCAATAT TAGGTTTGTT TTTAGCTGCT AACTCTTCAT TTTGGTTATT ACCAGTTGGA  | 4140 |
|    | TTAGTATGTA TGGCTGTTGG TTACCTATAT ACAGGTGGCC CTTCCCTAT TTCATGGACG   | 4200 |
| 40 | CCTTTCGGTG AATTATTCTC AGGCGTATTT ATGGGTATGT TTATTATCGT TATTGCATTC  | 4260 |
|    | TTTATTCAAA CTGGCAATAT TCAAAGTTAT GTAATTTGGT TAAGTGATACC TATAGTAATC | 4320 |
|    | ACTATCGG   | 4328 |

(2) INFORMATION FOR SEQ ID NO: 280:

- (1) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1450 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

|    |  |      |
|----|--|------|
|    | GTTCAATACA GAAAAAATAA ATTTAGATGT TGAAGCATCC TACAATTAAT ACAGATCCAT  | 60   |
|    | TTCAATATAT TTAAACTAAA ATCTCGGGAT TTCTAAATTT TGAAATTTTCG AGGTTTTnAT | 120  |
| 5  | ATTTTTATTT AAAATAGCAC ATTTATACTT TATAATAGTA AAGATGAACA TATAAGGAGG  | 180  |
|    | CCAAATCATG GCAAAACATC CATTCGAACA ATTTAATCTA GAATCTAGTT TAATTGACGC  | 240  |
| 10 | TGTGAAAGAC CTTAATTTTG AAAAACCAAC TGAAATTCAG AATCGAATTA TTCCAAGAAT  | 300  |
|    | ACTAAAGAGA ACAAATTTAA TTGGTCAATC TCAAACGGGT ACAGGGAAAT CTCATGCATT  | 360  |
|    | TTTATTACCA TTAATGCAGT TAATTGATAG TGAAATAAAA GAACCACAAG CAATCGTAGT  | 420  |
| 15 | TGCACCAACA AGAGAACTTG CACAACAACT ATACGATGCA GCGAACCATT TAAGCCAATT  | 480  |
|    | TAAAGCTGGT GTTTCAGTTA AAGTTTTTAT TGGTGGTACA GATATAGAGA AAGATAGACA  | 540  |
|    | ACGTTGTAAT GCACAACCAC AATTGATTAT AGGCACCCCT ACTAGAATTA ATGACTTAGC  | 600  |
| 20 | TAAAACGGGA CATTTACATG TGCACCTAGC ATCATATTTA GTTATTGATG AAGCGGATCT  | 660  |
|    | TATGATTGAC TTAGGATTAA TTGAAGATGT AGATTACATT GCTGCAAGAT TGGAAGATAA  | 720  |
|    | TGCAAATATT GCGGTGTTTA GTGCTACAAT CCCACAACAG TTACAACCAT TTTTAAATAA  | 780  |
| 25 | ATATTTAAGT CATCCAGAAT ATGTAGCTGT CGACAGTAAA AAACAAAATA AAAAGAACAT  | 840  |
|    | CGAATTCTAT TTAATACCTA CTAAAGGTGC AGCTAAAGTT GAAAAGACTT TAAATTTAAT  | 900  |
| 30 | TGATATACTA AATCCATACT TATGTATTAT TTTCTGTAAT AGTAGAGATA ATGCAAATGA  | 960  |
|    | TTTAGCACGT TCACTAAATG AAGCTGGTAT TAAAGTTGGT ATGATTCATG GTGGCTTAAC  | 1020 |
|    | GCCaCGTgAA CGTAAACAAC AAATGarACG TATACGTAAT TTaGAATTCC aATACGTTAT  | 1080 |
| 35 | TGCCaGCGAT TTAGCATCTC GTGGTATTGA TATTGAAGGT GTTAGTCrTG TCATCaATTT  | 1140 |
|    | TGATGTGCCA AATGATATTG ACTTCTTTAC GCATAGAGTC GGACGAACTG GTCGTGGGAA  | 1200 |
|    | TTATTrAGGT GTAGCAATTA CGCTTTATAG TCCTGATGAA GAACACAATA TTTCATTAAT  | 1260 |
| 40 | AGAAGATCGC GGTTTTGTAT TCAATACTGT TGATATTAAA GATGGTGAGT TAAAAGAAGT  | 1320 |
|    | TAAAGCGCAC AATCAGCGTC AAGCAAGAAT GCGCAAAGAT GACCATTTAA CTAATCAAGT  | 1380 |
|    | GAAGAACAAA GTTCGAAGTA AAATTAAAAA CAAAGTTAAA CCAGGTTATA AGAAGAAATT  | 1440 |
| 45 | TAAACAAGAA   | 1450 |

## (2) INFORMATION FOR SEQ ID NO: 281:

## (i) SEQUENCE CHARACTERISTICS:

- 50 (A) LENGTH: 1139 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 281:

|    |            |             |             |             |             |             |      |
|----|------------|-------------|-------------|-------------|-------------|-------------|------|
|    | AGTCAGGTAT | ATCATGCCaT  | yCTGAATTGG  | TCGATATTAA  | TATCAGTGGT  | GTTAAAGAAC  | 60   |
| 5  | GAATTGTATA | CCAATAGACG  | CTTTATATTG  | TAAAATAGTA  | TTAAATGCaG  | AATAGAGAGG  | 120  |
|    | AGATTTAATG | CGATATGACA  | AATTATAAAAG | TTGTCGTTTT  | AGATATGGAT  | GACACATTGC  | 180  |
|    | TAAATTCAGA | TAATGTGATA  | TCAGAAGAAA  | CTGCAAATTA  | TTTAACAGCA  | ATTCAAGATG  | 240  |
| 10 | AAGGTTATTA | TGTTGTTCTA  | GCATCTGGTA  | GACCTACTGA  | AGGTATGATT  | CCAACTGCTA  | 300  |
|    | GAGATTTAAA | ATTACCTGAA  | CATCATAGCT  | ATATTATTAG  | TTATAACGGT  | AGTAAAACGA  | 360  |
| 15 | TTAACATGAC | TAATGAAGAA  | GTAGAAGTAA  | GTAAATCGAT  | TGGTAAGCAA  | GATTTTCGATG | 420  |
|    | AAATTGTAGA | TTATTGTCGA  | GATAGAGGCT  | TTTTCGTTCT  | TACATATCAT  | GATGGTCAAA  | 480  |
|    | TTATTTaCGA | CAGCGAACAT  | GAGTATATGA  | ATATTGAAGC  | AGAAATTAACA | GGTTTACCGA  | 540  |
| 20 | TGAAACGTGT | TGATGATATC  | AAAGCGTATA  | TTCAAGGCGA  | TGTACCCAAG  | GTCATGGGTG  | 600  |
|    | TAGATTATGT | AGCGAATATT  | ACAGAAGCTA  | GAATTGATTT  | GAATGGTGTG  | TTCAATGATA  | 660  |
|    | ATGTAGATGC | TACGACAAGT  | AAGCCATTCT  | TCTTAGAATT  | TATGGCCAAA  | GACGTTTCAA  | 720  |
| 25 | AAGGTAATGC | AATTAAAGCG  | TTATGTCACA  | AATTGGGATA  | TTCGGTGGAT  | CAAGTCATTG  | 780  |
|    | CTTTTGGTGA | TAGTATGAAT  | GATAAAATCAA | TGTTTGAAGT  | CGCAGGTCTA  | GCTATTGCTA  | 840  |
|    | TGGGGaATGC | ATCAGATGAA  | CTTAAGCAAT  | ATGCAAATGA  | AGTTACGTTG  | GATCATAATG  | 900  |
| 30 | AAAATGGTAT | TCCACATGCG  | CTCAAAAAAT  | TGTTATAAAT  | TTTAAAATAA  | GCCTTAACAC  | 960  |
|    | ATGATATTTG | AATAAGATAT  | CTTGTGGTTA  | AGGCTTTTTTA | TTTTTGTGAA  | AATGACTTCA  | 1020 |
| 35 | GTTATACTAT | GGAGGATTTG  | AAATACATAT  | TTTAGATTAG  | TAATGATATC  | AAACGAATAG  | 1080 |
|    | AGTAAATGTA | TATTTTtTGTA | ATAAAATCAAG | TATTAAGTAG  | TCACGGAAGG  | nAGATAAAT   | 1139 |

(2) INFORMATION FOR SEQ ID NO: 282:

40 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 2931 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 282:

50

|            |            |            |            |             |            |     |
|------------|------------|------------|------------|-------------|------------|-----|
| TCTAAAAATG | CTGTGAAATT | CTTTTATAAA | TATCTAAAAG | GAATTAAATGT | TGATAACATT | 60  |
| GCTGTGATAG | GAAGTAAGAC | AGCGCAATAT | TGTGAATCAC | TTGGCATTTCG | AGTTGATTTT | 120 |
| CTGCTGCTGG | AGGAGCAATT | TTAAAATCAT | TTAATCAAAC | TAACCAAAAAA |            | 180 |

|    |            |            |            |             |            |              |      |
|----|------------|------------|------------|-------------|------------|--------------|------|
|    | AATGAAGTTG | TTAAAATAGA | TTTATATACT | TCAGTGCCTA  | ACAAACAAAA | TATACAAGAT   | 300  |
|    | GTAAAGAAA  | TGATAGAACA | TCAACAAATC | GATGCATTAA  | CATTTTCAAG | TTCGTCGGCA   | 360  |
| 5  | GTACGTTATT | ATTTTAATGA | AGGATTTGTA | CCAAAATTCA  | AGTCGTATTT | TGCTATTGGA   | 420  |
|    | GAACAAACAG | CACGGACCAT | TAAATCATAT | CAACAACCAG  | TAACAATTGC | AGAAATTCAA   | 480  |
|    | ACACTCGAAT | CACTAATTGA | AAAGATTTTA | GAAAGTAGGG  | GCTAAAAATG | AAATTTGATA   | 540  |
| 10 | GACATAGAAG | ATTGAGATCA | TCAGCGACAA | TGAGAGATAT  | GGTTAGAGAG | AATCATGTAA   | 600  |
|    | GAAAAGAAGA | TTTAATATAT | CCAATTTTTG | TAGTTGAAAA  | AGACGATGTG | AAAAAAGAAA   | 660  |
|    | TTAAGTCATT | GCCAGGTGTA | TACCAAATCA | GTTTGAATTT  | ACTTGAAAGT | GAATTA AAAAG | 720  |
| 15 | AAGCTTATGA | CTTAGGCATA | CGTGCCATTA | TGTTTTTCGG  | TGTTCCAAAC | TCAAAaGATG   | 780  |
|    | ATATAGGTAC | TGGTGCATAC | ATTCACGATG | GTGTTATTCA  | ACAGGCAACA | CGTATTGCTA   | 840  |
| 20 | AAAAAATGTA | TGATGACTTA | TTAATTGTTG | CAGACACTTG  | TTTATGTGAA | TATACTGATC   | 900  |
|    | ATGGTCATTG | TGGCGTGATT | GATGACCATA | CACATGACGT  | TGACAATGAT | AAATCATTGC   | 960  |
|    | CACTACTTGT | TAAAACAGCA | ATTTCTCAAG | TGGAAGCTGG  | TGCTGATATT | ATTGCGCCAA   | 1020 |
| 25 | GTAATATGAT | GGATGGTTTT | GTTGCTGAAA | TTCGTCGTGG  | ATTAGATGAA | GCCGGCTATT   | 1080 |
|    | ACAATATTCC | TATAATGAGT | TATGGTGTCA | AGTATGCATC  | AAGTTTCTTT | GGACCTTTTA   | 1140 |
|    | GAGATGCAGC | AGATTCAGCG | CCATCATTTG | GGGATAGAAA  | AACGTATCAG | ATGGACCCTG   | 1200 |
| 30 | CTAACCGTTT | GGAAGCACTT | CGTGAATTAG | AAAGTGATCT  | TAAAGAAGGG | TGCGACATGA   | 1260 |
|    | TGATTGTTAA | ACCTGCTCTA | AGTTATTTAG | ATATAGTTCTG | AGATGTTAAA | AATCATACGA   | 1320 |
|    | ATGTTCCAGT | TGTTGCATAT | AATGTGAGTG | GAGAATATAG  | TATGACTAAA | GCAGCGGCAC   | 1380 |
| 35 | AAAATGGTTG | GATAGATGAA | GAACGTGTCG | TTATGGAACA  | AATGGTTTCA | ATGAAACGTG   | 1440 |
|    | CAGGTGCTGA | TATGATTATT | ACGTATTTTG | CAAAGGACAT  | TTGTCGCTAT | TTAGATAAAT   | 1500 |
| 40 | AAGGTTTTAT | ATTTATGATT | TTCCATAAAC | TGTAGGAGGA  | ATTTACTTTA | TGAGATATAC   | 1560 |
|    | GAAATCAGAA | GAAGCAATGa | AGGTTGCTGA | AACTTTAATG  | CCTGGTGGTG | TAAATAGTCC   | 1620 |
|    | AGTACGCGCA | TTTAAATCAG | TAGATACACC | AGCAATTTTT  | ATGGATCACG | GTAAAGGTTT   | 1680 |
| 45 | AAAAATTTAT | GATATCGATG | GTAACGAGTA | TATCGACTAT  | GTACTAAGTT | GGGGACCACT   | 1740 |
|    | TATTTTAGGA | CATAGAGACC | CTCAAGTTAT | TAGTCATTTA  | CATGAAGCAA | TTGATAAAGG   | 1800 |
|    | TACAAGTTTT | GGTGCATCAA | CATTACTTGA | AAATAAATTG  | GCGCAgcTCG | TTATTGACCG   | 1860 |
| 50 | AGTACCTTCA | ATAGAAAAAG | TGCGTATGGT | GTCATCTGGT  | ACAGAAGCTA | CATTGGATAC   | 1920 |
|    | TTTAAGATTA | GCACGTGGTT | ATACTGGCAG | AAATAAAATT  | GTGAAATTTG | AAGGTTGCTA   | 1980 |

GCCGGATTCT CCTGGTGTGC CTGAAGGTAT TGCTAAAAAT ACAATTACAG TTCCATACAA 2100  
 TGATTTAGAT GCACTTAAAA TCGCTTTCGA AAAATTTGGa AACGATATTG CTGGTGTAAT 2160  
 5 CGTAGAACCT GTTGCTGGTA ATATGGGTGT CGTACCGCCG ATTGAAGGTT TTTTACAGGG 2220  
 ATTAAGAGAT ATTACGACTG AATACGGCGC ATTGCTAATT TTCGATGAAG TAATGACTGG 2280  
 TTTTACAGTC GGTATCATT GTGCACAAGG TTACTTTGGT GTGACACCAG ATTTAACTTG 2340  
 10 CTTAGGAAAA GTTATCGGTG GAGGACTACC TGTAGGTGCA TTTGGTGGTA AAAAAGAAAT 2400  
 CATGGATCAT ATAGCACCAT TAGGAAATAT TTATCAAGCG GGTACGTTAT CAGGAAATCC 2460  
 TCTTGCAATG ACAAGTGGTT ATGAAACGTT AAGCCAATTA ACGCCAGAGA CATATGAGTA 2520  
 15 TTTTAATATG TTAGGCGATA TACTTGAAGA CGGTTTAAAA CGTGTATTTG CTAAACACAA 2580  
 TGTACCAATA ACTGTAAATA GAGCAGGTTC AATGATTGGT TATTTCTTAA ATGAAGGACC 2640  
 20 TGTAACATAAT TTTGAACAAG CGAATAAAAG TGATTTGAAA TTATTTGCAG AAATGTATCG 2700  
 AGAAATGGCA AAAGAAGGTG TGTTTTTACC ACCATCTCAA TTTGAAGGTA CATTCTTATC 2760  
 TACGGCACAC ACGAAAGAAG ATATTGAAAA AACGATTCAA GCATTTGATA CGGCTTTAAG 2820  
 25 TCGTATTGTA AAATAAATAT ACGGACAAAT TGAGAGCCTG AACTTTGTTC AGGCTCnTTT 2880  
 TAAATGTATA TAAGGCATGG GCGGCGACTT GATAGTGAAA GTCCACTACT A 2931

(2) INFORMATION FOR SEQ ID NO: 283:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1421 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 35 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 283:

40 AATTATGAAT GCATTACCAG TATTATTACA AAAGAACAAT TAAAAATGTT TGTTTATGAT 60  
 TATGATACGC ATCTCATTAA AAATGTAAaTG GTTGACGACG ACGTGTAAAA GGCAAATGAT 120  
 ATTCAAGGAC ATGAACCATT AATCGTTAAC CTTCAAACGA TTGATGAAAC ATTACATCGT 180  
 45 TTACCTATGC ATAATAGAAA AGACATGATG GTTAATGGCG GTGTACTTAT GGCACATTTA 240  
 AATGCCAAAA GTGGTCCGTG GTTAAAAGAT GTGCTAAGAC AAATTGAGAT AGCGATTGTA 300  
 ACAGGTAAAG TAAGCAACGA AGAACTGAA ATTTTGAAAT GGGTGGATAA TCATGTCAAA 360  
 50 ATATAGTCAA GATGTACTTC AATTACTCTA TAAAAATAAA CCGAATTATA TATCTGGACA 420

CCCAGATATT TGGTATCAAG GTATAATAGA CCAATATACA AAAAGTTCTG CTTTGTGTTGA 600  
 TTTTAGTGAA GTATACGATT CAATAGATTC TACACAACTT GCTGCGAAAA AGTCACTTGT 660  
 5 TGGAAATCAA TCTTCATTTT TTATCTTGAG TGATGAACAA ACGAAAGGTC GTGGGCGATT 720  
 TAATAGACAT TGGAGTTCTT CAAAAGGGCA AGGACTTTGG ATGTCTGTCG TGTTAAGACC 780  
 10 TAACGTTGCA TTCTCAATGA TATCTAAATT TAATTTATTT ATTGCATTAG GGATAAGAGA 840  
 TCGGATTCAA CATTTTAGTC AAGATGAAGT CAAAGTGAAA TGGCCGAATG ATATATTTAT 900  
 TGATAATGGT AAAGTGTGTG GTTTCTTAAC TGAAATGGTT GCTAATAATG ATGGTATAGA 960  
 15 AGCAATAATA TGTGGTATAG GTATTAATTT GACGCAACAA CTAGAAACT TTGATGAAAG 1020  
 TATTAGACAT AGAGCAACAA GTATACAATT ACATGATAAA AATAAATTAG ATAGATATCA 1080  
 ATTTTITAGAG ATATTACTTC AAGAAATTGA AAAAAGATAT AATCAATTTT TAACGTTACC 1140  
 20 TTTTTCTGAA ATTCGTGAAG AATATACTGC AGCTTCTAAT ATTTGGAATA GAACGTTGCT 1200  
 ATTTACAGAA AATGATAAAC AGTTTAAAG ACAAGCAATT GATTTAGATT ACGATGGCTA 1260  
 TCTAATTGTT AGAGATGAAG CGGGTGAATC ACACCGTTTA ATTAGTGCG AGATAGATTT 1320  
 25 TTAACACTAA AGCAAGGAGA GATAGCTATG GGTATGGCAA CCTATGCCGT TGTGGATTTG 1380  
 GNAACAACAG GCAACCAATT AGATTTTGAC GATATCATT C A 1421

(2) INFORMATION FOR SEQ ID NO: 284:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 2202 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 284:

CCAAGTTGCC TAAAATGATT AAGCAAGGTT TATACCCTAT GCAACGATT GAACAAGAAT 60  
 CTGGAGCCAT CCGACTGCCA ACGATTTCTA GAGTGANGCG TTCATTACAA TGGGGTAATG 120  
 45 ATGCTTATAC AATGATTTTA GATCGTATGA ATATTGAAAC AAATGAATAA TAAATGAACG 180  
 ATAAACAATG GTTATCTATC TGCACTAATA AGGTAGATAA TCATTGTTTT TTCACGAAAA 240  
 AATTTACAGA GTAAAAGAAC TTAAATTTCA TATTAAGTCT TTAGAACTCG ACACTTAAAA 300  
 50 ATGCTATAAT CATATGTATG TTAAAAAAGG AGTTTCGGAA AATGTATGAC ATTAAAAAAT 360  
 GGCGCCATAT TTTTAAATTA GACCCAGCTA AACATATTTT AGATGATGAT TTAGATGCGA 420  
 TTTGTATGTC TCAAACAGAT GCAATTATGA TTGGTGGAaC TGATGACGTT ACTGAAGATA 480

|    |   |      |
|----|---|------|
|    | CAAACATCGA AAGTGTAATG CCTGGTTTTG ATTtTTATTT TGTACCTACA GTACTGAACA | 600  |
|    | GTACAGATGT TGTATTTTAC AATGGTACAT TATTAGAAGC GCTTAAAACA TATGGACATA | 660  |
| 5  | GTATAGATTT TGAGGAAGTA ATATTTGAAG GGTATGTCGT GTGCAATGCT GATAGCAAAG | 720  |
|    | TGGCAAAACA TACCAAAGCA AATACAGATT TAACAACAGA AGATTTAGAA GCATATGCCC | 780  |
| 10 | AAATGGTCAA TCATATGTAT CGATTACCGG TTATGTATAT AGAGTATAGT GGCATTTATG | 840  |
|    | GCGACGTATC AAAGGTTCAA GCTGTCTCAG AACATCTAAC AGAAACGCAA CTTTTTTATG | 900  |
|    | GTGGCGGTAT TTCCTCAGAA CAACAAGCGA CAGAGATGGC AGCTATTGCA GATACAATTA | 960  |
| 15 | TCGTGCGTGA TATTATTTAT AAAGATATTA AAAAAGCTTT AAAACAGTA AAAATAAAGG  | 1020 |
|    | AGTCTAGTAA ATGAATGCGT TATTAAATCA TATGAATACA GAGCAAAGTG AAGCTGTAAA | 1080 |
|    | GACAACAGAA GGACCATTGT TAATTATGGC AGGTGCTGGT TCAGGGAAGA CACGTGTTTT | 1140 |
| 20 | AACACATAGA ATTGCTTATT TATTAGACGA AAAAGATGTC TCACCATACA ATGTTTTGGC | 1200 |
|    | TATTACTTTT ACAAATAAAG CTGCAAGAGA AATGAAAGAA CGTGTTCAAA AATTAGTAGG | 1260 |
|    | TGATCAAGCA GAAGTTATTT GGATGTCAAC ATTCCACTCA ATGTGTGTTT GTATTTTACG | 1320 |
| 25 | TCGTGATGCA GATCGAATTG GTATAGAACG CAATTTTACG ATAATTGATC CTACAGACCA | 1380 |
|    | AAAATCTGTT ATTAAAGACG TCTTAAAAA TGAAAATATT GATAGTAAAA AGTTTGAACC  | 1440 |
| 30 | TCGTATGTTT ATCGGTGCGA TCAGTAATTT GAAAAATGAA CTTAAAACAC CTGCAGATGC | 1500 |
|    | TCAAAAAGAA GCCACAGATT aTCACTCgCA AwTGGTaGCA ACgGTTTaTA GTgGATATCA | 1560 |
|    | ACGCCAATTG TCACGTAATG AAGCGTTAGA TTTTGATGAC CTTATTATGA CAACGATTAA | 1620 |
| 35 | CTTATTTGAG CGTGTACCAG AAGTTCTAGA ATATTATCAG AACAAATTCC AATATATTCA | 1680 |
|    | TGTAGATGAG TATCAAGATA CTAATAAAGC ACAATACACA TTAGTTAAAT TATTAGCAAG | 1740 |
|    | TAAgTTTAAA AACTTATGTG TTGTAGGTGA CTCAGATCAG TCAATTTATG GTTGGCGTGG | 1800 |
| 40 | TGCTGATATT CAAAATATCT TATCATTTGA AAAAGACTAT CCAGAAGCGA ATACAATCTT | 1860 |
|    | TTTAGAGCAA AATTATCGTT CGACGAAAAC GATTTTAAAT GCGGCTAACG AAGTGtTTAA | 1920 |
| 45 | AAATAATTCT GAACGTAAGC CAAAAGGACT GTGGACTGCA AATACGAATG GTGAGAAAAT | 1980 |
|    | TCATTACTAT GAAGCAATGA CGGAACtGAT GAAGCGGAAT TTGTAATACG AGAAATTATG | 2040 |
|    | AAGCATCAAC GTAATGGTAA GAAATATCAA GATATGGCAA TTTTATATAG AACGAATGCA | 2100 |
| 50 | CAATCACGTG TACTTGAGGA AACATTcATG AAATCTAATA TGCCATACAC AATGGTTGGT | 2160 |
|    | GGCCAAAAGT TCTATGACCG TAAAGnAATC CAAAGATTTA TT                    | 2202 |

(A) LENGTH: 785 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 285:

10 AGTGGTGCAA AGATAGGCAT TGATaATACC GCTAAGCCAG CAAGATGATG GCACGATAAA 60  
 ACCTAACAG AAGAAmATAA ATAGTAATAC GATGATAAAT AATGGTCCAC TCATATGTTG 120  
 AACTAAAGAT GATGAAAAGT GTAAGATTGT ATCTGAAATC ATACCTTCAT TCAACACTAA 180  
 15 ATTAATACCT CGAGCTAAAC CAATAATTAA AGATACACCT ACTAAACTTG ATGCACCATT 240  
 GACAAATGCA TCTACAGTTC CTTTTTCTCC CAATCCAGAT TTACCTGTCC CAGCAATAAA 300  
 CATTATTATA ATTGTAAATA TAAAAATGC TGAAGCCATA ACTGGAACC ACCAACCTTG 360  
 20 CGTCATAACT CCCCATACCA TAATTGGAAA TGGTAGTACA AATAATGTAA GGATTATCTT 420  
 CTTACGCAAA GTAAAATGGG CACTATCGTC ATCTTTTAAT ACAGACCATT GCTGTTCAAA 480  
 AGCATCTTTG TCTTCATAAG AATATGACGC TTTAGGATCG TTTTAAATTT TTTTACAGTA 540  
 25 CCAATATAAA TAACTAATAA CAAAAATCGC ACCGACAATA CAAGCACCTA TTCTCCAATA 600  
 CAAGCCATCC GTAAAAGTTG TACCAGCGGC ATTAGAGGCA ATTACAACCG AGAACGGGTT 660  
 30 AATAGTTGAA AATGTACTAC CGACAGAGCT GGcAAGGAAT ATGGCACCAA CTGGAAACGA 720  
 TAGAATCGTA TCCTAACGCT AATAAATATA GGGACTAAAA TCGGATAAAA TGCTACAGCT 780  
 TCTTC 785

35

## (2) INFORMATION FOR SEQ ID NO: 286:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 812 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

40

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 286:

45

CTAACGnGAT AAGGTTGCAA nTTTATCTGA ACATCTGATG ACTGTAATTT TGtAATGAT 60  
 AAAATATTTG TCACTAATAG ATATAAATAC TGACTTTCTT GAAAACTATG TACAAGTAAT 120  
 50 TGTCCTTTT CTATGATAGA CATATCTTTA CTATGTGATA CTAAAATATC TAAATkTCCC 180  
 ATAATTGTTG TTAACGGTGT ACGTATGTCA TGCGAAATTG ATCTTAAAAA ATTTGAATGT 240  
 GTCAGTTGAC GTTCAGCCTG TAACATGGAT TCTCTCGTTT GTTTAAGTAA CGTCACATTT 300

55

|    |  |     |
|----|--|-----|
|    | ATCACTTGAG AACTTTGGTA ATCAATGGCT AGAATGCCTT TAATCGGAGA TGTGCCAATT  | 420 |
|    | GGTATCAACC ATTTATTAAT GCCTGGAAAT GTATCTGTTG TTGCACCAGC TTGTCTTTCA  | 480 |
| 5  | TTTTTAATTA CCCAGCTTAA TGCTTGTTCA TGCTGTTGAG TCGTATTATC GATATGGTTT  | 540 |
|    | TGCAATGGTA TTGTTTTAAT TACTTTTCGAT TGATTGATAA CGTATATAGT AATTGATTGT | 600 |
|    | TGCAATAATT GATTAATTTG GTATCCAGCA TTTATTAGTA AGTTTTCAAC TGTATAAGTT  | 660 |
| 10 | TGTTTAATCG AATCATTAAA TTGAAATAAT AAATCTGTAC GATAAAGTTG CTTTTTAGTA  | 720 |
|    | ATGGaGTaWT GGAATTTAAT TTGTnTTAAT AAAGCACTCG TTAAAATACT TGThAAAAATG | 780 |
| 15 | CTAACGATAA ATGTAATAGG ATAGTCAAAG CG                                | 812 |

## (2) INFORMATION FOR SEQ ID NO: 287:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1732 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 287:

|    |  |     |
|----|--|-----|
|    | ATnnATTATT ATTACTGCTA TTTTAAATTT TAAAAAATGC TTTTGATTAT ATTCAACAnT  | 60  |
|    | TTGTATAAAA TTAAATTTGC TTTTGATTAA AGCATGAAAA TTGTAATCAA ACCATAAATT  | 120 |
| 30 | GTCGTATGAT GTAGTTAGAA TTTTAAATG CAGGAGGTCa AGTATATGAC TGAAATaACA   | 180 |
|    | TTCAAAGGTG GACCAATCCA CTTAAAAGGT CAACAAATTA ATGAAGGTGA TTTTGCACCT  | 240 |
| 35 | GATTTTACAG TGTTAGATAA TGA CTTAAAT CAAGTAACAT TAGCAGATTA TGCTGGTAAA | 300 |
|    | AAGAAATTAA TTAgtGTGGT ACCATCAATT GATACAGGTG TTTGTGATCA GCAGACTCGC  | 360 |
|    | AAATfCAACT CTGATGCTTC TAAAGAAGAG GGGATTGTGC TTACAATTTc AGCAGACTTA  | 420 |
| 40 | CCATTTCGCAC AAAAAAGATG GTGCGCTTCA GCAGGTTTAG ACAATGTCAT TACATTAAGT | 480 |
|    | GACCACCGTG ACTTATCATT TGGTGAAAAC TATGGCGTTG TTATGGAAGA ACTTCGCTTA  | 540 |
|    | TTAGCTCGTG CAGTATTTGT ATTAGATGCA GATAATAAAG TTGTTTATAA AGAAATCGTT  | 600 |
| 45 | AGTGAAGGTA CTGATTTCCC AGATTTTGAT GCTGCTTTAG CTGCATACAA AAATATTTAA  | 660 |
|    | TCATTAAAGA GATAAATCTT AAAATGTATA CATCGTGTCC ATCGTTGTCA ACAGCATTAA  | 720 |
|    | AATAGAATTG TTTTCTATGA TTGCTAAGAC CTATGGGCAC TTTTtATtGG AGAGGGACGA  | 780 |
| 50 | ATATGGCAGA ACAACAAACA ATTATGGAAC GCTTGTTTCA TACATTAGAT GAAAAAGCTA  | 840 |
|    | ATATTTTTCGCTA TTTTGGGCTA GCAATGGAAC                                | 900 |

CATTCCAATT TGCATATTTA AGTTTAATGC aGGAAGAAAA GATAcAAGCA AATCATCAAA 1020  
 TTACACCAGA TTCAATTGGA TTGATACTAG GATTTTTAGT TGAGCGTTTT ATGAACAACC 1080  
 5 AAGAAGAATT ACATATTGTT GATATTGCAA GTGGTGCCCG TCATTTAAGT GCTACTGTAA 1140  
 AAGAAGTGTT ACCTGraAtT GcGGTTATGc ATcATTaAT TGaAGTTGAt CCAGTTTTAT 1200  
 CACGTGTTAG TGTACATTTA GCAAACCTCT TAGAAATTCC TTTCGATGTG TATCCTCAAG 1260  
 10 ATGCCATCAT GCCACTACCA TTAGAAGAAG CAGATATCGT TATTGGTGAT TTTCCAGTAG 1320  
 GCTATTATCC AATTGATGAA AGAAGTAAGG AGTTTAAGCT AGGTTTTGAA GAAGGACATA 1380  
 GTTATTCACA TTATTTATTA ATAGAACAAG CAATAAATGC ATTAAAAGAT GCTGGATATG 1440  
 15 CCTTTCTAGT GGTACCAAGT AATATTTTTA CAGGTGAACA TGTAAACAG CTTGAAAAAT 1500  
 ATATTGCAAC AGAGACAGAG ATGCAAGCAT TTTTAAATTT ACCACCAACT TTATTTAAAA 1560  
 20 ATGAAAAAGC GCGAAAATCT ATATTAATTT TACAAAAGAA AAAATCGGGT GaAACAAAGC 1620  
 CAGTTGAAGT ATTATTGGCA AATATTCCTg ATTTCCAAAA TTCCTTCACC AATTTCCAAG 1680  
 GATTTATGGA CAGAGTTAAA ATCCAGTGGG ATGGGACCAC CAAATCGTCC TA 1732

(2) INFORMATION FOR SEQ ID NO: 288:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2779 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 288:

AAAAGAACTA GCTAAACGCA AGCAAGAAGC TATTAGTAGA ATTAAAGACT TTTCAAATGA 60  
 AAAAATAAAT AGTATTCGAA ATAGTGAAAT TGGCACAGCT GATGAAAAAC AAGCAGCAAT 120  
 40 GAATCAAATT AACGAAATTG TGCTTGAAAC AATTAGAGAT ATTAATAATG CGCATACATT 180  
 ACAGCAAGTT GAGGCTGCAT TGAACAATGG TATTGCTCGA ATTTCCAGCAG TACAAATTGT 240  
 AACATCTGAT CGTGCTAAAC AATCGTCAAG TACTGGAAAT GAATCTAATA GCCATTTAAC 300  
 45 AATTGGTTAT GGAAC TGCAA ATCATCCATT TAACAGTTCG ACTATTGGAC ATAAAAAGAA 360  
 ACTTGATGAA GATGATGACA TTGATCCACT TCATATGCGT CACTTTAGTA ATAATTTCTG 420  
 TAATGTTATT AAAAACGCTA TTGGTGTGGT GGGTATCTCT GGTTTACTAG CTAGTTTCTG 480  
 50 GTTCTTCATT GCCAAACGTC GTCGTAAAGA AGATGAAGAG GAAGAATTAG AAATAAGAGA 540  
 TAATAATAAA GATTCAATAA AAGAGACTTT AGACGATACA AAACATTTAC CACTTTTATT 600

|    |             |            |             |             |            |             |      |
|----|-------------|------------|-------------|-------------|------------|-------------|------|
|    | AAATAATGGC  | GAGTCACTCG | ATAAAAGTTAA | ACATACGCCG  | TTCTTCTTAC | CAAAACGTCG  | 720  |
|    | TCGTAAAGAA  | GATGAAGAAG | ATGTGGAAGT  | TACAAATGAA  | AACACAGATG | AAAAAGTGTT  | 780  |
| 5  | GAAAGATAAC  | GAACATTCAC | CACTCTTATT  | CGCAAAACGA  | CGCAAAGATA | AAGAGGAAGA  | 840  |
|    | TGTTGAAACA  | ACAACTAGTA | TTGAATCTAA  | AGATGAGGAC  | GTTCTTTTAT | TATTGGCTAA  | 900  |
|    | AAAGAAAAAT  | CAAAAAGATA | ACCAATCCAA  | AGACAAAAAG  | TCAGCATCAA | AAAATACTTC  | 960  |
| 10 | TAAAAAGGTA  | GCAGCTAAAA | AGAAGAAAAA  | GAAAGCTAAG  | AAAAATAAAA | AATAATTTGT  | 1020 |
|    | TTCTTTTGATA | AATAGaGGAG | CACCGATTGA  | CATCACATCA  | GTCGGTGCTC | CTTTTATTTA  | 1080 |
|    | TTCTTTTTTAA | TTAATTTATA | CAATGCCTGT  | TGAGCGTGTT  | GATTCGCTTC | TTGTTTTTGT  | 1140 |
| 15 | TCTCTCGGTA  | TCCATTTAAC | AAATAATAAA  | TCAAAATCTT  | TTTCAAATAT | TTCTATTTGA  | 1200 |
|    | TCAAAATAAG  | GTTTGAAATT | TGCGTTTTTC  | ACATAACCAG  | CTTCAATGCT | ATCTGCAATT  | 1260 |
| 20 | AGCTTTGAGT  | CTGTATATAA | TAGTGCGTTT  | TGAACATTTA  | ATTCACGTGC | ATGTTCTAGT  | 1320 |
|    | GCATAAATAC  | ATGCAGCCCA | TTCTGCAGTG  | TGGTTATCCA  | TTTCGCCATA | CTCATGTGTA  | 1380 |
|    | TATGTATAAT  | GCTGCTCATC | TTCTTTGATT  | ACAATGGCAC  | ATGTACTTAT | GCCTGGATTT  | 1440 |
| 25 | cCTTTCGTCG  | CAGCATCAAA | ATTTATTTTC  | GCCATAATAA  | ACCTACTTTC | TATTCAATAC  | 1500 |
|    | TTAGTTAAAG  | TTACTATTAC | TGTAATACAA  | AATATGTTGG  | GTAATCCATT | AAAAAACACG  | 1560 |
|    | CATCACTTAA  | ATAAGTAACA | CGTGTTTAAA  | ATACTCGCTG  | ATTCAAAGAT | GATTTTCTAA  | 1620 |
| 30 | TACGTAtACT  | GTaATATACT | TCCTAAAAAA  | ATCATCTTCA  | GGCTGGGACA | TAAATCAATG  | 1680 |
|    | TTCTATGCTC  | TACGATGTTA | TATTGGCAGT  | AGTTGACTGA  | ACGAAAATGC | GCTTGTAACA  | 1740 |
|    | AGCTTTTTTC  | AATTCTAGTC | AGGGGCCCCA  | ACACAGAGAA  | TTTCGAAAAG | AAATTCTACA  | 1800 |
| 35 | GGCAATGCGA  | GTTGGGGTGT | GGGTCCCAAC  | ACAGAAGATG  | ACGAAAAGTC | AGCTTACAAT  | 1860 |
|    | AATGTGCaAG  | TTTGGGATGG | GCCCCAACAA  | AGAGAAATTG  | GATTCCCAAT | TTCTACAGAC  | 1920 |
| 40 | AATGCAAGTT  | GGGGTGGGAC | GACGAAATAA  | ATTTTGCGAA  | AATATTATTT | CTGTCCCCACT | 1980 |
|    | CCCTTAAAAAC | TTATTCTTTT | GTGTAGTAAG  | TGCGTTAATA  | GCCTTGATCT | AACTTATCAA  | 2040 |
|    | TCTTACCTTT  | ACGATAAAAT | GATTTAGCAA  | TATATCCAAA  | TGGTACATTG | AAAACGTGTG  | 2100 |
| 45 | AAGCTAATTT  | TAATACGTAC | GTTGTAATAA  | ATATTTCAAa  | TACAaMTGTa | CCAGGTAAAC  | 2160 |
|    | TTCCGATAAA  | TGCGATAGCT | ACAAATAAAG  | CTGTATCAAT  | TATTGrGCTT | AAAAATGTAC  | 2220 |
|    | TACCATATGg  | CACGGATGAA | AAACGTTTTa  | TCmGaACTAA  | ATACTTTTTT | AATTAGTGAA  | 2280 |
| 50 | AAGATAAATA  | CATCAATATG | TTGACCAATA  | ATATATGCGA  | CGATTGAGCC | TAAAGCAATG  | 2340 |
|    | AAAGATAAAT  | ATGAGGTAAT | TGCGTGTAAT  | GCTTTTTTGTG | CCATATCTTC | TGGTGCAGGA  | 2400 |

CAAACTGCTC TTTTGGCAAC TCTACGCCCA TAAATATCGT TTAATATATC TGTGCTAAA 2520  
 TAAATAGAAG CAAACATGAC ATTACCTAAA GTTGCTGAAA TACCAAAGAT TTCTACAGTT 2580  
 5 TTAATCACTT GTATGTTGGC AATGATTGTG CCAATTGCAA CCCATGCAAT TAAACCTTGT 2640  
 TTACCAAAAA AGCGATACAT AAGTACCATA AGCACGAACG TTGCAATAAA CGTAACTAGT 2700  
 CCTAAAATTT CATTATACAT ATTAAATGT CTCCTAAAT TTTGATCATG CGGGTGTTTA 2760  
 10 GAAACCGCTC AATAAATAA 2779

## (2) INFORMATION FOR SEQ ID NO: 289:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1999 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 289:

ACTGATGTGC GTTCATCAAA AACAAATATAA TCAAATTCAT TTTCATCAAA TTGCTTAAAA 60  
 25 TTATCATCTC TAGATAATGT TTGAATGGTT GCAAATAAAT ATTTGGCATC GACATCTCTA 120  
 TGTTCCTCTG TCAACAATCC AAAATCACTA TCATTTTTTA TAGGTAATAC TTTTTTAAAT 180  
 TCTTCCTTAG CTCTATTTAA AATCCCCCTCA TTATGAACAA TAAATAAAAA TTTATTAGGG 240  
 30 TTTACTTCTC TAACATCTAA TGCACATAAA ATCGTTTTAC CTGTACCAGT TGCAGATATT 300  
 ATTAACGCCT TATCTTTGGC TTTATCCCTA ATAGCTTTTA ATGACCTTAA TGCTTCTGCT 360  
 TGCATTAAAT TGGGTACAAT TTCCACTGAT TTTTTCACCT TATCAGCTAG CAGCATTTGA 420  
 35 GTTTGTTCAA CCTCCGCTAA TTTTCTAAG GAACGGTACT CAAATGATTC TTTATATGAA 480  
 TTAATCCATT GCTCAGTCAG TGGGGTACTC TTTTGCCATA ACAAGTCAAA TTCACTTTTT 540  
 40 AACTATCAA CTAAATCGCC ATTTTTCATA GTAGACAGTA AAACATTATG CTCATAATTA 600  
 ACCTTTAACG CATTAGATGT TAAATTAGAG CTTCTATTA CCATAGAACT ATAATCCTTA 660  
 TGCTCAAAAA TATATCCTTT GGCATGGAAT CCAGCAATAT CAGTTAATCT TACCTCTACA 720  
 45 TTTTTTAATT TAAGTAATTC TCCATACATT TTAGGACTAT TAAACCCTAA GTAATTAGAT 780  
 GTTAATATTT TCCCTTTAAC ACCCTTATTG CTTAAATCTA ATAGTTGAGC CTTTAAGCTG 840  
 GcTAAACCGC TTTCTGTTAT AAAAGCCACA GAAAAATAAA ACGTTTCACA TTTTGAAGT 900  
 50 TCATCTATAA TTGTTGAAAAG AACTTTTTCA TTTTATTAT TTAATAAAG CTTCCGGTGTA 960  
 TAATTCCTT TATGAGAAAT ATGTTTGTCT ATAAACCCTT TATGTAAAGA TTGATTGAAA 1020

|    |  |      |
|----|--|------|
|    | CGCTGGGGCC CAATTTAATT TATCAAGTTC GTTTATTGAC AACCATTCAA TACTCTTATG  | 1140 |
|    | TTCAGTTAGA GTTGGTAACT CTTTGTTTAA AGTACATTG TATGTTGTTA ACCTAACAAT   | 1200 |
| 5  | TCCAAAATCA TATTCATGTT CTGTAGTTAT AACTTTGTCT CCAACAATTA AATCACATTT  | 1260 |
|    | CATTTCTTCT CTAATTTCTC TAATCAAAGC GTCTTTTCA GTTTCATTCT TTTCAACCTT   | 1320 |
|    | ACnGCCAGGA AATTCCCACA TTAAAGGCAG ACTCATTTTT TCACTTCTCT GTGCACAAAG  | 1380 |
| 10 | AATTTTGTTA TCAGAAAAA TAATAGCTCC TACTACATTG ATTACTTTTT TCATAAGACT   | 1440 |
|    | CACCCTTCAA TTTAAATCA TCTTAATTGT TATTCTATCA AAAATTACAA AACTATATAT   | 1500 |
|    | AAATCAATAT TAAAAATTAA TATTTTACAT TCACATGAAC GCTCTACTCC ATGCATTTTC  | 1560 |
| 15 | ATACACATCT ATTATATAAT ACTTGTGAAA AGTATTGTCT TGGGGCTGTG TTTTTTACT   | 1620 |
|    | TTTGGGGCGT ATTTCTTTAT AATTCATTAC ATAAATGTAA GGGCTTTAGT TTTTCATGTTT | 1680 |
| 20 | TATTAAGTCT AACTGAGATT TTGAAAGGAT GTTTAGCAAC AATGGATAAA GAATTATGGA  | 1740 |
|    | TAGAACGAGc TAATGATAGT TTAGTTAAAC ATTTTATGa GCAGCAATCT GACATTGAAC   | 1800 |
|    | AGCGAGAAGG TTTTGAAAGT AAATTAACAT TTGGTACTGC GGGTATACGC GGAAAATTCG  | 1860 |
| 25 | GTCTTGGTGA AGGTCGACTT AATAAGTTTA CTATTGAAAA ATTGGCATTG GGTTTAGCGC  | 1920 |
|    | GTTATTTAAA TGCCCAAACA AACAGTCCAA CAATAGTCAT TCATTATGAT ATTAGACATC  | 1980 |
|    | TTTCcAACTG AATTCGCCC   | 1999 |

## (2) INFORMATION FOR SEQ ID NO: 290:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1933 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 290:

|    |   |     |
|----|---|-----|
|    | GATGACTTTT CCCCTCATA ATCTTCATGG TCCAGGCGTC CATTAATGCG TCAAAGGATG  | 60  |
|    | GCACATTTTA CCTGGAACAA ATGATTCATA TGGTTCATAA AAATCACGCG TCGTAATATA | 120 |
| 45 | ATCTTCTAAA TCAAATGCAT AGAAAATCAT TGGCTTTTAA AATACTGCAT ATTCATATAT | 180 |
|    | TAAAGATGAA TAGTCACTAA TTAATAAATC TGTATGAAC AGTATATCAT TAACTTCTCT  | 240 |
|    | AAAGTCAGAA ACGTCAACAA AATATTGTTT ATGTTTGTCT GCAATATTAA GTCTATTTTT | 300 |
| 50 | CACAAATGGA TGCATTTTAA ATAATACAAC CGCGTTATTT TTTTCGCAAT ATCTTGCTAA | 360 |
|    | AAATGCTGTA ACGTGGCTGTA CCATGACCAC TACCTCTAAA                      | 420 |

|    |  |      |
|----|--|------|
|    | TTGTTTGATC TGTGTCGCAT AAGCTTCATC AAATAGTACA TCAGTACGTG GAACACCTGT  | 540  |
|    | AGGCACTACA TTTTCTCTT TAATACCAA TGCTTCAGCG TAGAATGGAA TATCGGTTTC    | 600  |
| 5  | AGATGATACA TAAGCTTTTG TATAGCTACG ATGATTTAAT GAATCAATAA ATGGTCCACC  | 660  |
|    | CTTTTACCA GTACGACTAA AGCCAACGT TTTAAAGGCA CCAACGGCAT GCCATACTTG    | 720  |
|    | AATAACTTCT TGAGAACGTC TAAAACGCAC TGTATAAATC AATGGGTGAA AGTCATCAAC  | 780  |
| 10 | AAAGATGTAG TCTGCCTTCC CAAGTAAATA TGGCAATCTA AACTTGTCGA TGATGCCACG  | 840  |
|    | TCTATCTGTA ATATTGCTT TAAAAACAGT GTGAATATCA TACTTTTTAT CTAAATTTTG   | 900  |
| 15 | ACGTAACATT TCGTTATAGA TGTATTCAA GTTCCAGAC ATCGTTGGTC TAGAGTCTGA    | 960  |
|    | TGTGAACAAC ACCGTATTCC CTTTTTCAA GTGGAAAAAT TTCGTCGTAT TAAATATCGC   | 1020 |
|    | TTTAAAAATA AATTGTCTTG TATTAAATGA TTGTTGCGG AAATACTTAC GTAATTCTTT   | 1080 |
| 20 | ATATTTACGA ACGATATAAA TACTTTTAACT TTCCGGAGTC GTTACAACAA CATCAAGGAC | 1140 |
|    | AAATTCATTA ACATCGCTAG AAATTTCAGG TGTAACAGTA TAAACCGTTT TCTTCGAAAT  | 1200 |
|    | GCCGCCTTTT CTAAATTCTT TTAGGTAAGT CTGCAATAAG AAATTGATTT TACCATTTTG  | 1260 |
| 25 | TGTTTCTAAT TCGTTGTATT CTTCTTCTTG TTCTGGCTTT AGATTTTGAT ATGCATCATT  | 1320 |
|    | AATCACATCT GGGTTTAACT GTGCAATATA ATCAAGTTCT TGCTCATTCA CTAATAAGTA  | 1380 |
|    | CTTATCTTCA GGTAAGTAAT AACCATTATC TAAGATAGCT ACATTGAAAC GACAAACGAA  | 1440 |
| 30 | TTGATTCCCA TCTATTTTGA CATCATTCGC CTTCAATTGTA CGTGTCTCAG TTAAATTTCT | 1500 |
|    | TAATACAAA TTACTATCTT CTAAATCTAG GTTTTCACTA TGTCTTCAA CGAATAACTG    | 1560 |
| 35 | AACACGTTCC CAATAGATTT TATCTATATA TATCTTACTT TTAACCAACG TTAATTCATC  | 1620 |
|    | CTTTTCTATT TACATAATCC ATTTTAATAC TGTTTACCC CAAGATGTAG ACAGGTCTGC   | 1680 |
|    | TTCAAAAGCT TCTGTAAGAT CATTAAATTGT TGCAATTCA AATTCTTGAC CTTTAAACAA  | 1740 |
| 40 | CGCTAATTTA nCTACAATAT CTGGGTATTG AATGTATAAG TCTACAACAT CTTGGAAATC  | 1800 |
|    | TTTTGAACCA CTTGACTAC TACCAATCAA CGTTAGTCCT TTTTCCAATA CTAGACGTGT   | 1860 |
|    | ATTAACCTCT ACTGGGAACT CACTTACACC TAACAGTnCA ATGCTTCCTT CTGGTGAAAT  | 1920 |
| 45 | GTAATCGATC ATT   | 1933 |

## (2) INFORMATION FOR SEQ ID NO: 291:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2049 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 291:

|    |  |      |
|----|--|------|
|    | ngTnCGGnCA GATATATTGG TGGTCTTTAG TAAGTGATC AAATTCATCA GATGTCAAGG   | 60   |
| 5  | GCGATGTTATC ACCTCCTTAG GTTGATAACA aCATTATACa CGaAAGGAGC ATAAaCAAaT | 120  |
|    | GAACACAaGA TCAGAAGGAT TCGGTATAGG CGTCCCACAA GTTTCTAGCA AAGCTGATGC  | 180  |
|    | TTCTTCATCC TATTTAACGG AAAAGGAACG TAACTTAGGA GCGGAAATAT TAGAACTTAT  | 240  |
| 10 | TAAAAAAGT GATTACAGCT ACTTAGAAAT AAACAAAGTT TTCTATGCAT TAGATAGAGA   | 300  |
|    | ACTTCAATAC AGGGCGAATA ATAACAACT TTAaCATTa TCTAAAGGAG TGATAGAGAT    | 360  |
|    | GCCAAAAATC ATAATACCAC CAACACCAGA AAACACATAT CGAGGCGAAG AAAAATTTGT  | 420  |
| 15 | GAAAAAGTTA TACGCAACAC CTACACAAAT CCATCAATTG TTTGGAGTAT GTAGAAGTAC  | 480  |
|    | AGTATACAAC TGGTTGAAAT ATTACCGTGA AGATAATTTA GGTGTAGAAA ATTTATACAT  | 540  |
|    | TGATTATTCA GCAACGGGAA CATTGATTAA TATTTCTAAA TTAGAAGAGT ATTTGATCAG  | 600  |
| 20 | AAAGCATAAA AAATGGTATT AGGAGGATTA TCAAATGAGC GACACATATA AAAGCTACCT  | 660  |
|    | ATTAGCAGTG TTGTGCTTCA CGGTCTTAGC GATTGTACTC ATGCCATTGC TGTACTTCAC  | 720  |
|    | TACAGCATGG TCAATTGCAG GATTCGCAAG TATAGTGACA TTCATATTTT ATAAGGAATA  | 780  |
| 25 | CTTTTATGAA GAATAAAAAA ACTGCTACTT GTTGGAGCAA GTAACAGTGC AAGATGAGCA  | 840  |
|    | ATTGTCTTAA ATAATTATAT AAGGAGTTAT TAATATGACC TTACAACAAA AAATACTATC  | 900  |
| 30 | ACATTTTGCA ACATATGACA ATTTCAATTC TGATGATGTT GTTGAAACTT TTGGGATATC  | 960  |
|    | TAAAACACAT GCAAAATCCA CACTTTCAAA ACTTAAGAAA AAAGGAAAGA TTGCAATGGA  | 1020 |
|    | AAGTTGGGGT GTCTGGCGTG TTATTGAATC GCAATTGCAT TTAAGTGTAG TCGAACGTAA  | 1080 |
| 35 | AAAAGAAATT TTAGAAGAAC AATTTGAATT GTTAGCAAGA TTAAATGAAC AAAGTGATGA  | 1140 |
|    | CCCTAGAGAA ATAGAAGAAC GTATCAAGTT AATGATTCGT CTAGCTAACC AATTTTAAGG  | 1200 |
|    | AGGAGTTAAT CAATGGCAGT ATTAGAAGGT ATTTTGAAG AATTAAACT ATTAAATAAG    | 1260 |
| 40 | AACTTACGTG TGTAAACAC TGAATATCA ACTGTAGATT CATCAATTGT ACAAGAGAAA    | 1320 |
|    | GTTAAGAAG CACCAATGCC AAAAGAAGAA ACAGCTCAAC TGAATCAAT TGAAGAAGTT    | 1380 |
| 45 | AAGGAACTT CTGCTGATTT GACTAAAGAT TATGTTTTAT CAGTAGGAAA AGAGTTCCTT   | 1440 |
|    | AAAAAAGCAG ACACTTCTGA TAAGAAAGAA TTTAGAAATA AACTTAACGA ACTTGGTGCG  | 1500 |
|    | GATAAGCTAT CTAATATCAA AGAAGAGCAT TATGAAAAAA TTGTTGATTT TATGAATGCG  | 1560 |
| 50 | AGAATAAATG CATGAAGCTA GATCACTCAA ATAGAGCTCA TGCAAAGCTT AGTGCAAGTG  | 1620 |
|    | AAAAAAGCAG ACACTTCTGA TAAGAAAGAA TTTAGAAATA AACTTAACGA ACTTGGTGCG  | 1680 |

GTCTTAAATA TGAAGGCCTA ACACAGTTTG AGTTTAATAA AGCTTTTCAA AATTATAAGC 1800  
 GAAATCAATA TTACAGTGAA GAGTTGCGCG AATATGTTGa AGAGTACGTA GCTAATGTAG 1860  
 5 AAGAAAAGTA TAACGAGGCT TTGaGTAGAG ATGACGATGT AATAGCTTTA TTTGAAACAA 1920  
 AATTGGATyT AGGTAAATAC GTCCCTGAAT CTTTTGGTay TGGTGATGTC AtTATATTTT 1980  
 CAGGTGGTGT ACTTGAAATT ATTGACCTTA AATACGGTAA AGGCATTGAA GTTTCAGCTA 2040  
 10 TAGATAATC 2049

(2) INFORMATION FOR SEQ ID NO: 292:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 942 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 292:

ATGATGTTTC TATATTCGTA TTAGGAAAAC CTGTTGGTAT TACAACAAAC GCCCTAAAT 60  
 25 TACAATACCG CTGCTCCTAT ACCAATTGCA ACAACAGTTT TAACTGAAAT ATCTTGTTTT 120  
 TTCATCTTCA TTACTCCTtt ACATAAAAAA TTCATTATAT TGATGGTGCT TTAGATAAAT 180  
 GAATCGTCCA ATCATTTCCA GTACCAATAT GATATAAATC TGAAAATGAG TCTTGATTGA 240  
 30 CTGCTACACC AATATTTACT AGCGAGTTAA CATAACAAG AGGTTACCCC ACATTAACAT 300  
 CTGCAAACGA TCGCGCAAAT TTAATAATAT TTTGATAGAC TTTCTTATCT TGATGATAAA 360  
 TTGTTACCAC CAAATTATTA CCATGAACAA TTTCCAAGGA TTTTAAGAAT GCCAATGGAA 420  
 35 TATTTGTCCA TAATGACCCA AATCTGATAT CTAATAATATC AATGCTTCCT GTAACAGAAT 480  
 CCTCATTtTTT TGTCACCTTCT CTTATTTCTA ATGCCTCAAT ACTATCAACA TTAATTGCCT 540  
 40 GACCGAGACG TTCAAACGCT ATCTTATTTG CAGCTAATCT CGCACCATTG TATGCATAAA 600  
 CATCTCTACC ATGAAAAGTA TGACTTTCTT CCGAATGAGG CAATCGGCTT TTCACTTCAT 660  
 CAATTTGAT AACTTTTTTA ATACCTTCGT AATGTTTAAT ATGACTTAAA GAACCATTAT 720  
 45 CAGGTGTAAT AATGTAATGA CCTGAATATG TTAAGCAAGC AATGTCCGCC TATCACTACC 780  
 TACACCCGGG TCTACCACTG ATACAAArac TGTGCCTTTA GGCCAGTATT TTACAGTTTG 840  
 ATATAAACGA TATGACGCTA CCCAAATGTC ATACGGTGGT ATATCATGCG TTAAGTTTTT 900  
 50 AACACGTATA TCATCATTAC AGTATATGCA ACTCCATACA TT 942

(2) INFORMATION FOR SEQ ID NO: 293:

(A) LENGTH: 1268 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 293:

|    |  |      |
|----|--|------|
| 10 | TGTAATAAAA TTTTATGnAA CATGCTGnGA TGCTACCATG AACCTTCTTC ATTTCTTTAT              | 60   |
|    | GTGAGATTGT GaaATTAATC AAATAATAAT ACGGTGGATA CTTTCCTAAT TTACGATATT              | 120  |
|    | CCATTTCTCTG ACGATAAAAT GTTAAATAAT CATTTTTTTG AACATCCAAT ATTGAATAAT             | 180  |
| 15 | GATCTGGATT ATACGTTTGA ATGATGACTT GACCTGCCTT TTCATGACGA CCAGCTCTAC              | 240  |
|    | CAGCCACTTG CGTTAATAGT TGATAAGTAC GTTCGCTCGC CCGAAAATCA GGTAAATTTA              | 300  |
|    | ACATTGTATC TGCATTGAGC ACACCAACTA AAGTAATATT TGGATAATCT AATCCTTTCTG             | 360  |
| 20 | CAATCATCTG AGTACCTACT AAAATGTCAC CGTTACCTTT TTCGAATTCA GTCAATAACT              | 420  |
|    | TTTCATGTGC ACCTTTCTTT GAGGTTGTAT CTACATCCAT CCTAATTATG CGCGCATCTT              | 480  |
|    | CAAATTCTTG TTGCAATAGT TCTTCAACTT TCTGAGTACC AGTACCTACT TGTCGAATGT              | 540  |
| 25 | GTTCACCTCTC ACAATTTGGA CATTGATTCTG GTGGCGTCTC TTGGTAACCA CAATAGTGAC            | 600  |
|    | ATTTTAATAA GTCTGTCGTT TTATGATACG TTAATGAAAT ATCACAGTTT GGACATTGCG              | 660  |
| 30 | GTACATATCC ACAATCCCGA CATAACATAA ACGATGCATA ACCACGTCGA TTTAAAAATA              | 720  |
|    | AAACAACCTTG TTCCTGTCTGA TCTAATCTTA ATTGTATGGC TTCACGTAAA TCTTTTGAAA            | 780  |
|    | ACATTGACCG ATTACCTTCA CTCAATTCTT CACGCATGTC TACTATATCA ATTTGAGGTA              | 840  |
| 35 | AAGCTTGTTG GTTCACTCTG TTTGGTAATG ATAGCAAATG ATAAACGCCT TTTTCAGCTC              | 900  |
|    | GTGCATAACT TTCAAGACAT GGTGTTGCAC TTCCTAAAAT GACTGGACAG TGATGATATT              | 960  |
|    | CAC <sup>T</sup> TCGCCA TTGGGCAATT TCTCTAGCGT GATATCTCGG ATAATCTTCT TGTTTATATG | 1020 |
| 40 | TAGATTCATG TTCTTCATCA ATGATGATTA ACCCTAAATT TTTGAAAGGT GCGAACACAC              | 1080 |
|    | TTGACCTTGC ACCAACACTT ACTCTCGCAC GACCATCCCT AATTTTTTGC CATTTCATCAT             | 1140 |
|    | AACGTTCCCC ATTAGATAAG CCAGAATGTA ATACAGCAAC GTCATCACCA AATCGACGTT              | 1200 |
| 45 | TGAAGCGTAA AACCATTGTC GGTGTTAGAG CGATTTCAGG AACTAACATC ATCGCCTGTT              | 1260 |
|    | TTCTTTGG   | 1268 |

50

## (2) INFORMATION FOR SEQ ID NO: 294:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 629 base pairs

STRANDEDNESS

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 294:

5 TACCACCAAA TAATATATTA GCTGGCATT TAATAACATT TAnATTGTG ATGATATCAT 60  
 CAATAAAATG TTGAAACTTC GTAATTTTAC CTTCATAATC ATCAATTGCT GCTAATTGCG 120  
 CACTCGATGC TTGCTGATCT AAATTTAAAA TATTCGACAT GCGTTGACTA TAATAAACTA 180  
 10 AATGTTCTAT TAAGCCATCG TCACTCTTTT CCTTTGGTGC TGACATGACA GCGATACGTT 240  
 TCAAAGGATA GTGTTGCGCC AATTTTAATG TCATTAATCC ACCTAAAGAC ACACCCGTTG 300  
 CACTGATAGA TTCATAACCT TCATTGACTA AAAATTGGTA AGCTTTCTCA ACTTCTTCCC 360  
 15 ACCAATCATC TACATTATAT GTCATGAAAT CTTTCAACAA TAAACCATGA CCTGGATAAT 420  
 TCGGTGCATA ACAACTAAAT CCTTGGTCAT TTAAGTCAGC TGCAAGATGC TTCACATCCC 480  
 20 GATTTGTACC TGTAATGAA TGTAATAATA ATATCGCATG TCCATTGTG CCTTTTAAAT 540  
 ACGtGGACTC GGTGTTTTAA TTCTCATTTT TCTaTATAcC TCCACTAtGT CTAAAGakGT 600  
 TkGCTAAACG CGTTGtCGTC GATGATTAA 629

## (2) INFORMATION FOR SEQ ID NO: 295:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2817 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 295:

35 TATGAAAGTA ATGAATGGTA ATATTATTAA ATTTGATGGA AAAGTAGATA TTGATAATGC 60  
 AGATfAATATC GGTTTTTTAA TTGAGCATCC TAAATTATAT GATAATAAAT CAGGATTGTA 120  
 40 TAACTTGAAA TTATTTGCAC AAGTATTAGG TAAGGGTTTT GATAAAGCAT ACACAGACAA 180  
 AATTATAGAT GCATTTGGTA TGAGACCTTA TATTAAAAAG AAAGTTAAGA AATATTCAAT 240  
 GGGGATGAAG CAAAAGTTAG CAATTGCAGT ATCTTTATgTG AATAAACCTA AATTTTAAAT 300  
 45 CTTGGATGAG CCTACAAATG GkATGGATCC AGATGGCTCa ATTGATGTGC TGACTACAAT 360  
 TAAGTCTTTA GkAAATGaAC TTGATATGAG AATTCTaATA TCAAGTCATA AGTTAGAAGA 420  
 TATTGAATTA ATTTGTGATA GAGCTGTATT TTTAAGAGAC GGnCATTTTG TTCAAGATGT 480  
 50 AAACATGGAG GAAGGTGTTG CATCTGACAC AACGATAGTT ACTGTTGATC ATAAAGACTT 540  
 TGATAGAACT GAAAAATATC TTGCAGAGCA TTTCCAATTA CAAAATGTCG ACAAAGCAGA 600

|    |  |      |
|----|--|------|
|    | ATTAGATATT TATCCGAAAT ATATTGAAAC ACGTAAAAGT TCATTGCGTG ATACGTACTT  | 720  |
|    | CAATATAAAT CAAAGAGGTG ATAAATAATG AGAATTTTAA ATTTAGTTAA GTATGATTTT  | 780  |
| 5  | TATAGTATAT TTAAaArTCC TTTAACATAT TTAGCGaTAC TAGTCGTATC TAGTTTGATT  | 840  |
|    | GCAACTCAAA GTATACTTAT GGCAAATTCTG ATGGATAACC CGAAACATAT TATTGTCTAT | 900  |
|    | GGATCTGTAT TTGCTGCAGC AAAATGGTTA TTGTTAATAA TTGGATTAAAT GTTTGTTGTT | 960  |
| 10 | AAGACAATTA CGCGTGATTT TTCACAAGGT ACAaTTCAAC TATATATGAG TAAAGTTAAA  | 1020 |
|    | ACACGCGTTG GAtACATTAT TTCGAAAACA ATTTCAATTa TTTTAATTTT AATATTATTT  | 1080 |
| 15 | GCATTAATTC ATTATGTGAT TTTGATTGTT GTGCAGGCAT CTAGTAATGG AAAAAATTTG  | 1140 |
|    | GCGTTTTCTA AATATGTAGA TAATTTATGG TTCTTCCTAA TCTTTTTACT ATTCTTTGGC  | 1200 |
|    | TTGTTTTTAT TCTTAATCAC ACTTGCATCA CAAAAACAG CAATGATATT TTCATTAGGT   | 1260 |
| 20 | GTATTTTTAG TACTCATTGT ACCGTTTATT AAACCTTTTA TTACATTTAT CCCAAGATAC  | 1320 |
|    | GGTGAAAAAG TTTTAGATGC TTTTGATTAT ATCCCTTTTG CTTACTTAAC TGATAAAATG  | 1380 |
|    | ATTAGCTCTA ACTTTGATTT TAGCAATTGG CAATGGGTAA TTTCATTAGG TTCTATAGTG  | 1440 |
| 25 | ATATTCTTCA TTTTGAATAT CTTATATGTC GCTAAAAAAG ACATyTAATA AAAATAATTT  | 1500 |
|    | TGAGGTTGGG AATTTTAAAT TTTCCCAACC TCAAAGTTTG TCTTATTGTA AATTTATTTA  | 1560 |
|    | TTTTCTAATT TATTTAGGAT GGAATTATAA ACTGCTTTCC AAAATGAAGC GTCAGTTTTA  | 1620 |
| 30 | TAGCGGTTTG ATATAACTAA GTGTGTTTCT TTTTCTAAAT CTGCATAGTC TGGATGATCT  | 1680 |
|    | TTGCTCGGTA ATTTATCAGC ACGAACATCA GTTACAAATT TTTGGACTTC ATTTGCTCTT  | 1740 |
| 35 | GGTCCCCAAA CTGTTTCTTG TTCGAATTGA TCATTCAAGA ATACGAAGAT AGGAATTGCA  | 1800 |
|    | CGTGATTTAC CATTTGTAA ATATTGATCG ATCAGTTTTG TATCATCATC TCTATGGAAC   | 1860 |
|    | ACGCGTACTT CTAAATTTAA TGCTTCACTG ATGTGTTTTA GAATTGGGAG ATTCATCATT  | 1920 |
| 40 | GCATCTCCAC ACCAGTCTTC AGTAATTACT AATACTTTAG AATAATTCAT CTCTTTTATT  | 1980 |
|    | TTTTTGATGC GTGAATCATC TTCTGGTAAC TCAAATGATT GATAGATACT GAGAACGGTA  | 2040 |
|    | TCTTGATTG TCTTCATTCC ATCAATGTAT TCATTTAAGG GTTGGCTATT TTTGAAATAA   | 2100 |
| 45 | GTTTCTAAAT TTGTCATTGT AAAAACCTCC TTTAGCATTT ACAACATTAT ACCAATTTAT  | 2160 |
|    | AGTAATAAAA GGTAATGAAA TAAATTAATT GCAAATTCCT TGTTAATTTT TGTTAAGGAT  | 2220 |
|    | GAAACGGGAA GCACCTTATG CTATATTTAA ATAAGTACAA AGAAAGGGTG ACATCAGTGC  | 2280 |
| 50 | GTATTCAAAA TCGCTGGGTT GTGTTTATAT TATTTTTAAT CTGTTCTTTT GGTGTATTAA  | 2340 |
|    | GTATTCAAAA TCGCTGGGTT GTGTTTATAT TATTTTTAAT CTGTTCTTTT GGTGTATTAA  | 2400 |

|    |  |      |
|----|--|------|
|    | TTGATCGTTT TAAATTTTAT AACAGTAAAG CTCACCCTGA TCTTACCGTT AAAGTGAGAG  | 2520 |
|    | AAAAGGATAA CATCGTTAAG GGGATAATAT TAGTAAGAGA TGAAAAGATA CATACTAATT  | 2580 |
| 5  | TTGATGGGGG AATTGGTTCG CCGATAAATA ACGCgATTGA AAATCTTGGA TTCgGATATA  | 2640 |
|    | AAAGrACaAA AGTTGGcAAT GrtTkCtCAT CgGTAAAGTA TATTGATAGA GATAACCATT  | 2700 |
|    | TAAAATTAAA CTTACTTTTAT CAAGATTTAG AAATTAAACG TATTGAATTT TTTAGTAAAT | 2760 |
| 10 | AGCTTTAGGT CTTAAAGTTw TAAAAAACGA ATGAaTAATT TTATTGGGAT GAGTGAC     | 2817 |

(2) INFORMATION FOR SEQ ID NO: 296:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1607 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 296:

|    |  |      |
|----|--|------|
|    | TCTGTTAAAA TGATTTTTCT TTTAnAAAGG CCGnAAATCA ATGTTTCGATT nTTATTTGCA | 60   |
| 25 | TTATGGTCTC GATATTGGTA GAATATCAAA TGGTTAAATG AGAAAACTT GGAGGTGCTC   | 120  |
|    | ACATGTCATC AATCGTAGTA GTTGGGACAC AATGGGGAGA CGAAGGAAAA GGAAAAATAA  | 180  |
|    | CGGATTTCTT GGcAGAACAG TCAGATGTTA TCGCGCGTTT TTCAGGTGGT AATAATGCAG  | 240  |
| 30 | GCCATACCAT TCAATTTGGC GGAGAAACAT ATAAATTACA TTTAGTACCA TCTGGTATCT  | 300  |
|    | TTTACAAAGA CAAATTAGCG GTAATCGGTA ACGGAGTCGT TGTTGATCCA GTTGCACTAT  | 360  |
|    | TGAAAGAATT AGACGGATTA AATGAACGTG GCATTCTAC AAGTAATTTA CGTATATCTA   | 420  |
| 35 | ATCGTGCGCA AGTGATTTTA CCATATCACT TAGCACAAGA TGAATATGAA GAACGTTTAC  | 480  |
|    | gTGGtGACAA TAAGATTGGT ACAACTAAAA AAGGTATCGG TCCAGCATAT GTAGACAAAG  | 540  |
| 40 | TTCAACGTAT CGGTATTCGT ATGGCAGATT TACTTGAAAA AGAAACATTC GAAAGATTAT  | 600  |
|    | TAAAATCAAA CATTGAATAT AAACAAGCAT ATTTCAAAGG TATGTTTAAC GAAACATGTC  | 660  |
|    | CATCATTTGA TGATATCTTT GAAGAATATT ATGCAGCAGG TCAACGTCTA AAAGAAATTTG | 720  |
| 45 | TAACAGACAC ATCAAAAATC TTAGACGATG CATTTGTAGC AGATGAAAAG GTACTTTTCG  | 780  |
|    | AAGGTGCGCA AGGTGTAATG TTAGATATCG ACCATGGTAC ATATCCATTC GTTACATCAA  | 840  |
|    | GTAATCCAAT TGCAGGTAAC GTTACTGTTG GTACAGGTGT AGGTCCTACA TTCGTTTCAA  | 900  |
| 50 | AGGTAATTGG TGTATGTAAA GCTTATACAT CACGTGTTGG TGATGGTCCA TTCCCTACTG  | 960  |
|    | AATTATTCGA TGAAGATGGA CATCATATTA GAGAGTTGG TCGTGAATAC GGTACAACAA   | 1020 |

|    |  |      |
|----|--|------|
|    | TAAGTGGTAT TACAGATTTA TCTATTAACT CAATCGATGT TTAAACAGGC CTAGACACAG  | 1140 |
|    | TGAAAATCTG TACAGCTTAT GAATTAGACG GTAAAGAAAT TACTGAGTAC CCAGCAAACCT | 1200 |
| 5  | TAGATCAATT AAAACGTTGT AAACCAATCT TTGAAGAGTT ACCAGGTTGG ACAGAAGACG  | 1260 |
|    | TAACAAATGT GCGTACTTTA GAAGAATTAC CTGAAAATGC ACGTAAATAT TTAGAGCGTA  | 1320 |
|    | TTTCAGAATT ATGTAATGTA CAAATTTCTA TCTTCTCAGT TGGTCCAGAT AGAGAACAAA  | 1380 |
| 10 | CAACCTATT AAAAGAATTG TGGTAGAACT TTATATAAGT CATACACAAT GATTATAAAT   | 1440 |
|    | ACATGAGCCT TCTATCTTTA TTGGTAGGAG GCTTTTGTGA TGCTTGCTTC TGTATCGATT  | 1500 |
|    | CGATTATTTA GATAAAAAAT ACTAACGTAA AGGCGATATT TGCTAGTCAT AATTTAGAAG  | 1560 |
| 15 | rTTAgATGAt AtTtAACGAA AAtTAAGATG anATAcTGA ATGGTAA                 | 1607 |

(2) INFORMATION FOR SEQ ID NO: 297:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3055 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 297:

|    |  |     |
|----|--|-----|
|    | TTAGAAGTAA GCACTTTAAT ATCTTTACCT ACCCATGTAC CAACACCTTC TTTAGGCTTT  | 60  |
| 30 | GGATTTTCAG CATGGTTATT TGATTTATTC ACCTGTTTAC ATCTATTTAC TTTATTACCT  | 120 |
|    | TTATTGGGGT TCTCTAATAC ATCAAATTTT AATCTCGGTG AATAAAAAAG ATATATTAA   | 180 |
|    | AATCCAACCTA AAAATAATAC ACCGACGACT CTTATAATTA ACTTTTTCAT CAATCAACCA | 240 |
| 35 | CCTAAAAAGT ATTAATACTA TTGTAAAAAA CAACACATTA ATTAGCAAAT TTTCAACACT  | 300 |
|    | GACATAACTG TGTCGTTTCG ATAAAACAAA ATCATCTTCA GGCATAATTT TAACGTCATA  | 360 |
| 40 | AAGATTTTCC CTACACTCTA TATCATAACC TATCTTTATG TTTTCAGGTT GAATTTTATT  | 420 |
|    | ATTAAGATTA AAATATGTAT AAAAAAATGG ACAGTTAAGG TATCAAATGA ATACCATCAA  | 480 |
|    | CTGTCCGACT ATTCTTCATC AAAAAACCTG ATAAAACAAA TTGCCTTATC AGATTAGTAT  | 540 |
| 45 | CATTTGTATA AGCATATTAA TGACCAAATG TTGCTTTAAT CAGTGATGTC GTTTCTCCAC  | 600 |
|    | CTGGATATAA TACATATAAT AATAAGTAAA CTGCTACACC TGTAATTGCA GTACAGAACC  | 660 |
|    | ATATAACTGA AGCGAATGGC CCGAATTTGC GGTGTACATT ATATTTATCT TTAAATGCAG  | 720 |
| 50 | TAATAATTTG AACTAGGCCT AGAATACCAC CAATTGTTGC TAAATTAATG TGGAAAAATA  | 780 |
|    | CAATATGCTT ATATATTTTC TTAATTGATG CTGGTCCGCC AAATGCTGTA TTACCGATAA  | 840 |

|    |  |      |
|----|--|------|
|    | TAACATTTTT GTGTTTATTT ATTTCCCTTT TCCAAATAAG TCTCCAACCA ATGGCAATTA          | 960  |
|    | AAATTGCACT AATGACAATA CATGTCGTAC TAATCGTTGG TAAAATTGGA ACGCCCATAT          | 1020 |
| 5  | TTTTCATCCT AACTTAATTA ATCTAGATCA AAGTAAGTAA TGAAACAATC ACAGCTAACA          | 1080 |
|    | CGAAAAAGAT CACTAAATAA TTTAGTGAAT ATATAAACAT TTGTGTTGCC CATTGTTT            | 1140 |
|    | GATCTGAATT TTTCTTAAAT GTTGTTAAAC CTAATGCAAT CCATCCTAAA TTTAATAAGG          | 1200 |
| 10 | TrGCTAACAC TaCGAATACG ACACCTAAAT TTATTAGTAA TAAAGGTACT GGCAATAAAA          | 1260 |
|    | TAATCAACCA GATAAACATA CTGACACGTG TACGTTTAAA GCCCTTAACT GATGGTAACA          | 1320 |
|    | TTGGAATATT TGCAAGTGCA TATTCATCTT TACGTTTAAAT AGCTAAGGcA TAAAAATGAA         | 1380 |
| 15 | TTGGtTGCCA ACmAAATACA ACTAAAAACA GCGCAATCGC TGTAAACTA ATTTGTCCTT           | 1440 |
|    | CAATTGCAAC CCATCCAATT AGTGGTGGTA CTGCTCCAGG AAAACTCCCA ATCACTGTGT          | 1500 |
|    | TCCATGTTGT ATGTCTTTTA GACCATATTG AGTAATAAGA CACATAACCT ACAATCCCCA          | 1560 |
| 20 | TAAGACCAAG TACGCCTGAT GGTATATTCA ATAAAAACAA ACAATTTCT CCAACTAACA           | 1620 |
|    | TCATACCAA ACTTAATAGT AATAAATTTT GATCTGTAAT TCTATTATTT ACAGTTGGTC           | 1680 |
| 25 | TATTTTGTGTT ACTAGGCATA ATACGATCAA TATCTTGGTC GTAATAATTA TTTAACGCAC         | 1740 |
|    | ATGCGCCACC CATAATTAAA GTAGATCCAA ATAGCATTAA TAAAATTTGA GGTATTGATG          | 1800 |
|    | ATAAGAAGGA ATGATTTGTC ATTACAAC TGCTCTTTGC TCATAATCCC CCTCCTTAAA TTTGTTTATA | 1860 |
| 30 | AGTTACCTTG AACAAAGTCCC ATTTTAATTA TCTGTTGCAA TTCTTTGAAG TTAACCTCTGC        | 1920 |
|    | TAATATTTTG TGACmAGTA TGCTCTTTGC TCATAATCCC CCTCCTTAAA TTTGTTTATA           | 1980 |
|    | TAAGATTATG ATATCTTAGA TTGCATAAAA AGACTAGGTT TAATAAAATT AAATTGTGAC          | 2040 |
| 35 | AAATTAACGA CAAGAGAAAA TGTCAATTTT GTGACACAAA TAACATTTAA TTTATTGCTA          | 2100 |
|    | TAATGTATAT GTTAGAAAAT TTTAATAAGT AGAATCATGC ATCTAAAAGA GATTAATATT          | 2160 |
|    | TAAGCTTCAA ATTTGAGTAA ACGTGGATTA CATAATTATC CCAATAAAAA AATCATTACG          | 2220 |
| 40 | ATTAAGTTCT TTTTATGTCG TCCACATACA ATACTTGTA AATTAAATCA TATTCCTGTC           | 2280 |
|    | GTGATCCC ATCTTTTCAT ATCCTACAAT CAGGTCTATT TATAGTATCA TCTCAAATCC            | 2340 |
| 45 | GGCTATTAAT TCTAATTCTC AGTGATGCGT TTTTATGA TGGGGTGTAT AAATTGTTTG            | 2400 |
|    | GCAAAAAGAA TTTAAATGG TTAGGTGTCG TAGCAACGTT AATGATGACA TTTGTACAAC           | 2460 |
|    | TTGGTGGAGC CTTAGTTACC AAAACCGGAT CAGCTGATGG TTGTGGTTCT TCTGGCCAC           | 2520 |
| 50 | TATGTCATGG TGCGTTGATT CCAGAAATCT TTCCTATTGA TACGATTATT GAGTTAAGTC          | 2580 |
|    | ATAGAGCCGT TTCAGCTTTG TCTTTATTAA TGGTCTTATG GTTAGTTATC ACTGCATGGA          | 2640 |

TATTGCAAGC ATTAATCGGA GCTGCTGCTG TTATTTGGCA AAAAAACGAT TACGTTTTAG 2760  
 cATTGCACTT TGGTATATCA TTAATCAGTT TCTCATCTGT ATTTTAAATA ACATTGATTA 2820  
 5 TTTTCTCTAT AGATCAAAAA TATGAAGCTG ACGAATTATA TATCAAAAAG CCATTAAGAC 2880  
 GTTTAACATG GTTAATGGCA ATCATCATTT ATTGTGGTGT TTATACTGGT GCACTAGTGa 2940  
 GACATGCGGA TGCAAGTTTA GCATATGGTG GTTGGCCATT GCCATTACCA CGATCTTGTA 3000  
 10 CCACATTCAG GAACAAGATT GGGTTCAACT CACGCATCGT ATCAngGTCn nTTAA 3055

(2) INFORMATION FOR SEQ ID NO: 298:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 748 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 298:

TTCTTATTTA AAGAAGTCAT TTTTAGAAAT TGTTGAGACT TTAAAAAATG ATCCGTATAA 60  
 25 AATAACACAA TCTTTTGAAA AATTAGAGCC TAAATATTTA GAGCGATATT CAAGAAGAAT 120  
 TAACCATCAG CACAGGGTCG TCTATACCGT AGATGATCGA AATAAAGAAG TATTAATACT 180  
 ATCGGCATGG TCACATTATG ATTAATGAAT ATTCAATATC TGAATAACTT TAATGATAAG 240  
 30 TTAATTAAAG AAAC TAGTAT TTAAGTGTAG GGAAAATAGC GACGTTAATG CGTTGTTATC 300  
 TCTACACTTT TTAATTTTAT AATAGCGCAA GACTAAACAG ATTGAAATTA GTAACAATAA 360  
 AAGAATAACG TATTATAATA AGGAATTTTA AATTGTGACT TTTTCGGAAT ATTAAATTTT 420  
 35 AGAAATATGA GGTTTTTTAAG CGGATTCCTC ACAAATTTT AAAAATATTT AAGCCTGAAA 480  
 ATGATAAAGC GGTAGGGAAC GTTTTTCTGA AaGTTAGTGA TACAATAGTT TTAAGTTGAA 540  
 ATACAGGAGG ATGAATAACA TGAATCAGTC AGTCAAATTA CTTAAACATT TAACAGATGT 600  
 40 AAACGGCATT GCTGGTTATG AAATGCAAGT TAAAGAAGCA ATGCGTaACT ATATAGAGCC 660  
 TGTCAGTGAT CaAATTATTG AAGATAACTT GGGTGGCATT TTTGGAAAGA AAAATGCTGA 720  
 45 GAATGGTCAA TACTCAATTA TGGAnTTC 748

(2) INFORMATION FOR SEQ ID NO: 299:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4718 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 299:

|    |   |      |
|----|---|------|
|    | ACCTCCGAAT AATTGATTCC ATTAAC TTTT TTTGTG <del>a</del> AAA AtTTAAACAG GCGAAGTCTT | 60   |
| 5  | CAATAAGTGA AGATGTCCAA ATTATAAAAA ATACATTCCA AAAAGAAAAG TTAGGTACAG               | 120  |
|    | TAATTACtAC ycTGGCGCAA GTGGTGGTGT TACGTATAAA CCAATGATGA GTAAAGAAGA               | 180  |
| 10 | GGCGACTGAA GTTGTTAATG AGGTCATTAC TCTATTAGAA GAGAAAGAAC GTTTGTTA <del>c</del> C  | 240  |
|    | TGGCGGATAT TTATTTT <del>T</del> TAT CAGATTTGGT AGGTAATCCA TCGCTACTAA ACAAAGTTGG | 300  |
|    | TAAGTTAATT GCCAGTATTT ACATGGAAGA AAAATTAGAT GCTGTTGTTA CCATTGCGAC               | 360  |
| 15 | AAAAGGTATT TCATTGGCAA ATGCGGTTGC TAATATTTTA AATTTACCAG TAGTAGTGAT               | 420  |
|    | TAGAAAAGAC AACAAAGGTGA CTGAAGGTTT TACAGTTTCA ATTAATTACG TTTCAGGATC              | 480  |
|    | TTCAAGAAAA ATAGAAACAA TGGTACTTTC GAAGAGAACT TTAGCAGAAA ATTCAAATGT               | 540  |
| 20 | TTTAGTTGTC GATGATTTTA TGAGGGCTGG TGGCTCTATT AATGGTGTTA TGAATTTAAT               | 600  |
|    | GAATGAGTTT AAAGCCCATG TAAAAGGGGT ATCAGTACTT GTAGAATCAA AAGAAGTTAA               | 660  |
|    | ACAAAGATTG ATTGAAGATT ATACTTCCTT AGTGAAATTA TCTGATGTAG ATGAATATAA               | 720  |
| 25 | TCaAGAGTTT AACGTAGAAC CTGGCAACAG TTTATCTAAG TTTTCATAAA AGGAGTTT <del>T</del> A  | 780  |
|    | GTATTATGAA AATCATTAAC ACAACAAGAT TACCGGAAGC ACTTGGACCA TATTCGCATG               | 840  |
|    | CAACAGTTGT GAATGGTATG GTTTATACTT CTGGTCAGAT TCCATTGAAT ATTGATGGAC               | 900  |
| 30 | ATATCGTAAG CGCTGATGTT CAAGCACAGA CAAAACAAGT TTTAGAAAAT TTAAAGGTTG               | 960  |
|    | TTTTGGAAGA AGCAGGATCT GATTTGAATT CTGTTGCGAA AGCGACCATT TTCATTAAAG               | 1020 |
| 35 | ATATGAATGA TTTCCAAAAA ATAAATGAAG TGTATGGTCA ATATTTTAAT GAACACAAGC               | 1080 |
|    | CAGCGCGTAG TTGTGTAGAG GTTGCGCGTT TGCCAAAAGA TGTGAAAGTA GAAATTGAAT               | 1140 |
|    | TAGT <del>A</del> AGTAA AATTAAGGAA TTATAATTTT CGATTAATAT GTTTAATCAA GCTTCTAAAT  | 1200 |
| 40 | AAAACAGAGA GATATATACT ATAGGGGGGC TCACTACATG AAAGTGACAG ATGTAAGACT               | 1260 |
|    | TAGAAAAATA CAAACAGATG GACGAATGAA AGCACTCGTT TCCATTACAT TAGATGAAGC               | 1320 |
|    | TTTCGTAATT CATGATTTAC GTGTAATTGA AGGAAACTCT GGCTTGTTCTG TTGCAATGCC              | 1380 |
| 45 | AAGTAAACGT ACACCAGATG GTGAATTCCG CGACATCG <del>cg</del> CATCCTATTA ATTCAGATAT   | 1440 |
|    | GAGACAAGAA ATTCAAGATG CAGTGATGAA AGTATATGAT GAAACAGATG AAGTAGTACC               | 1500 |
|    | AGATAAAAC GCTACATCAG AAGATTCAGA AGAAGCTTAA TCAATTTTAT ATTTAGCGAT                | 1560 |
| 50 | GTAATACATT TGCAATAAGT TGATTTGATA CTGTGCGATA AGCATAAAGC TTTGTGCGCA               | 1620 |
|    | GTTTTTTTAG TTTGTATTAA TGTTTTTTTA TTTT <del>T</del> AATGA AAGGCTAATA AATATATACG  | 1680 |

|    |  |      |
|----|--|------|
|    | TGaTGCTCGT ATTTTGAAG TAAGAAAAA GTTGTTTTTA AAATTACAAC GAATTAAAAA    | 1800 |
|    | CAATGCCTTT TATATGTTGA AAGAGTATTG CaGATTAAAT TaTAATAATG ACGAaGgTAA  | 1860 |
| 5  | AATTTAATGG GGGTTAATGT TCATGCGAAG ACACGCGATA ATTTTGGCAG CAGGTAAAGG  | 1920 |
|    | CACAAGAATG AAATCTAAAA AGTATAAAGT GCTACACGAG GTTGCTGGGA AACCTATGGT  | 1980 |
|    | CGAACATGTA TTGGAAGTG TGAAAGGCTC TGGTGTGCGAT CAAGTTGTAA CCATCGTAGG  | 2040 |
| 10 | ACATGGTGCT GAAAGTGTA AAGGACATTT AGGCGAGCGT TCTTTATACA GTTTTCAAGA   | 2100 |
|    | GGAACAACCTC GGTACTGCGC ATGCaTGCAA ATGGCGAAAT CACACTTAGA AGACAAGGAA | 2160 |
|    | GGTACGACAA TCGTTGTATG TGGTGACACA CCGCTCATCA CAAAGGAAAC ATTAGTAACA  | 2220 |
| 15 | TTGATTGCGC ATCACGAGGA TGCTAATGCT CAAGCAACTG TATTATCTGC ATCGATTCAA  | 2280 |
|    | CAACCATATG GATACGGAAG AATCGTTTGA AATGCGTCAG GTCGTTTAGA ACGCATAGTT  | 2340 |
|    | GAAGAGAAAG ATGCAACGCA AGCTGAAAAG GATATTAATG AAATTAGTTC AGGTATTTTT  | 2400 |
| 20 | GCGTTTAATA ATAAAACGTT GTTTGAAAAA TTAACACAAG TGAAAAATGA TAATGCGCAA  | 2460 |
|    | GGTGAATATT ACCTCCCTGa TGTATTGTCG TTAATTTTAA ATGATGGCGG CATCGTAGAA  | 2520 |
|    | GTCTATCGTA CCAATGATGT TGAAGAAATC ATGGGTGTAA ATGATCGTGT AATGCTTAGT  | 2580 |
| 25 | CAGGCTGAGA AGGCGATGCA ACGTCGTACG AATCATTATC ACATGCTAAA TGGTGTGACA  | 2640 |
|    | ATCATCGATC CTGACAGCAC TTATATTGGT CCAGACGTTA CAATTGGTAG TGATACAGTC  | 2700 |
| 30 | ATTGAACCAG GCGTACGAAT TAATGGTCGT ACAGAAATTG GCGAAGATGT TGTTATTGGT  | 2760 |
|    | CAGTACTCTG AAATTAACAA TAGTACGATT GAAAATGGTG CATGTATTCA ACAGTCTGTT  | 2820 |
|    | GTTAATGATG CTAGCGTAGG AGCGAATACT AAGGTCGGAC CGTTTGCGCA ATTGAGACCA  | 2880 |
| 35 | GGCGCGCAAT TAGGTGCAGA TGTTAAGGTT GGAAATTTTG TAGAAATTAA AAAAGCAGAT  | 2940 |
|    | CTTAAAGATG GTGCCAAGGT TTCACATTTA AGTTATATTG GCGATGCTGT AATTGGCGAA  | 3000 |
|    | CGTACTAATA TTGGTTGCGG AACGATTACA GTTAACTATG ATGGTGAAAA TAAATTTAAA  | 3060 |
| 40 | AcTATCGTCG GCAAAGATTC ATTTGTAGGT TGCAATGTTA ATTTAGTAGC ACCTGTAACA  | 3120 |
|    | ATTGGTGATG ATGTATTGGT GGCAGCTGGT TCCACAATCA CAGATGACGT ACCAAATGAC  | 3180 |
|    | AGTTTAGCTG TGGCAAGAGC AAGACAAACA ACAAAGAAG GATATAGGAA ATAATCATTT   | 3240 |
| 45 | ACGTATTTAA AATGGCTAGG ATAAAAGGAT AATCCTATGT AATATTAATG TAATCTTTAT  | 3300 |
|    | GATTTAATGA TTCGCATAGT AATGGAGTTA CATyTTATAT ATAATAGTAA TTGCGTAAGT  | 3360 |
| 50 | AAATAATTGG AGGACTATAA ATGTTAAATA ATGAATATAA GAATTCGTCA TTAAAGATTT  | 3420 |
|    | ATGATGTAAG ACGAAACGAA GCATTAGCGC AAGAAGTTGC TGACCAAGTA GGAATTGAAC  | 3480 |

GTATTCGTGG TTGTGACGTA TTTATTATTC AACCAACATC ATATCCTGTG AATCTACATT 3600  
 TAATGGAATT ATTAATTATG ATTGATGCTT GTAAACGTGC TTCTGCAGCA ACAATCAATA 3660  
 5 TTGTAGTGCC ATATTATGGA TATGCAAGAC AAGATAGAAA AGCCCGTAGC CGTGAGCCAA 3720  
 TCACTGCTAA ATTAGTTGCA AACTTAATCG AAACAGctGG CGCAACTCGT ATGATTGCGT 3780  
 TAGACTTACA TGCACCACAA ATTCAAGGAT TCTTTGATAT TCCAATTGAC CACTTAATGG 3840  
 10 GTGTGCCAAT TCTTGCTAAA CATTTCAAAG ATGATCCGAA TATTAACCCA GAAGAATGTG 3900  
 TCGTTGTTcA CCAGACCATG GCGGsnTTAC ACGTGCACGT AAATTAGCTG ACATTTTAAA 3960  
 AACTCCAATT GCAATTATAG ATAAACGTCTG TCCTAGACCA AATGTTGCTG AAGTGATGAA 4020  
 15 CATTGTTGGT GAGATTGAAG GACGTACGGC AATTATTATT GACGATATTA TTGATACAGC 4080  
 AGGTACAATC ACTTTAGCTG CACAAGCATT AAAAGATAAA GGTGCTAAAG AAGTATATGC 4140  
 20 TTGTTGTACA CACCCTGTTT TATCAGGACC GGCTAAAGAA CGTATCGAAA ATTCTGCTAT 4200  
 AAAAGAATTA ATCGTAACAA ACTCAATTCA TTTAGATGAA GATCGCAAAC CATCTAACAC 4260  
 TAAAGAATTA TCTGTTGCTG GTTTAATCGC ACAAGCTATC ATTCGTGTAT ACGAAAGAGA 4320  
 25 ATCAGTTAGC GTATTATTTG ACTAATATTT AAAAGGCGTT TGACGAACAT ATTCCAAACG 4380  
 TGTATAATAG TTTCGTTCTG GATTATACGA ATAAATAAAC ACTTGCAAGC AACGATGATG 4440  
 TTGATGGGTA AGTGAGGTGC TCGTTTTGAG CAAAAATGAA AGGTGGAAAT GAGAATGGCT 4500  
 30 TCATTAAAGT CAATCATCCG TCAAGGTAAA CAAACACGTT CAGATCTTAA ACAATTAAGA 4560  
 AAATCTGGTA AAGTACCAGC AGTAGTATAC GGTTACGGTA CTAAAAACGT GTCAGTTAAA 4620  
 GTTGATGAAG TAGAATTCAT CAAAGTTATC CGTGAAGTAG GTCGTAACGG TGTTATCGAA 4680  
 35 TTAGGCGTTG GTTCTAAAC TATCAAAGTT ATGGTTGC 4718

## (2) INFORMATION FOR SEQ ID NO: 300:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3181 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 300:

AAAATGCATA TAAATACATA TTAAGGAGGA TTTTATGAAT TTTCTTAAAC CTGCAAAGCA 60  
 50 TATTAAGCCT TTGCCAGAAA ATCAGATAGA TGATACCTAT AAACGATTAC GTCTCCAAGT 120  
 ATTTCTTGGT ATTTTCATCG GTTACGCTGG GTACTATTTA TTACGTAAAA ACTTTTCGTT 180

|    |  |      |
|----|--|------|
|    | TGCTGTTTCC ATCGCATATG GATTTAGTAA GTTCTTTATG GGTACTGTAA gTGATCGGAG  | 300  |
|    | CAATGCTCGG ATATTCTTAG TTCTTGGATT AGCACTCACT GCTATCGTCA ATTTGTTAAT  | 360  |
| 5  | GGGATTTGTA CCGTTCTTTA CATCAGGTAT CGGTATTATG TTTGTCCTAT TATTCTTAAA  | 420  |
|    | TGGATGGTTT CAAGGTATGG GCTGGCCACC TTCAGGCCGT GTTCTCGTTC ACTGGTTTAG  | 480  |
|    | TGTAAGTGAA CGCGGAAGTA AGACTGCCCT TTGGAACGTT GCGCATAATG TTGGTGGAGG  | 540  |
| 10 | TATTATGGCA CCTATTGCTG CTTGGGGTAT TACAACAACT GCATTTATCA ACTTTGGTTA  | 600  |
|    | TTTAAAAGGT TTCGAAGGTG TATTCAITTA CCCTGCACTC TTAGCACTTA TCATTGCCGC  | 660  |
|    | AATTTCATAC GTATTGATTA GAGACACACC TCAATCTCAA GGTTTACCTC CAATCGAAAT  | 720  |
| 15 | TTATAAAAAT GACTTTGCTA CAAGCGATAA GAAAACATTA GAAACAGAAT TAACTACAAA  | 780  |
|    | AGAAATTTTA TTTAAATATG TACTGAACAA TAAATGGGTG TGGGCAATTG CCTTTGCAAA  | 840  |
| 20 | TATATTTGTT TATTTCTGTC GTTATGGTGT ACTTGATTGG GCGCCAGTCT ACTTAAGTGA  | 900  |
|    | AGAAAAACAT TTCGACTTAA AAGCATCAGG TTGGGCATAC TTCTTATACG AATGGGCTGG  | 960  |
|    | AATTCCTGGT ACATTATTAT GTGGTTACAT TTCTGATAAA TTATTCAAAG GTCGTCGTGG  | 1020 |
| 25 | ACCTGCAGGT TTCTTCTTTA TGTTAGGTGT CACAGTATTT GTATTAATTT ATTGGTTAAA  | 1080 |
|    | TCCTCCAGGC AATGCTTGGT TAGACAATGT CTCATTAATT GCCATTGGTT TCTTAATATA  | 1140 |
|    | TGGACCAGTT ATGTTAATTG GTTTACAAGC ATTAGATTAT GTACCTAAAA AAGCAGCTGG  | 1200 |
| 30 | CACAgcAGCT GGATTAACAG GATTATTTGG TTATCTGTTT GGTGCTGTAA TGGCCAACAT  | 1260 |
|    | CGTCTTAGGT GCTGTAGTTG ATAAATTCGG ATGGGATGTC GGTTTTATTT TATTACAGC   | 1320 |
|    | AATTAGTGTG TTTGCAATGT TGAGCTTTAT CCTCACTTGG AATAAAGTAG GACAAGAAAC  | 1380 |
| 35 | CGTTCATCAT TAAATGATAA AAAATAAAGT CATATGGTTA TCTTATCGAA AGATGATATA  | 1440 |
|    | TTCATCTCTT ATAAGTTCAA CCATATGACT TTTTATTAGT ATTCAAAAAA ATATTTACAT  | 1500 |
|    | TGCCACTTTT GTGTTTGCCC TGCTGTTTTA TTCAATTGAT TACACCACTT AGGATAAACT  | 1560 |
| 40 | CTAAAAGCCA TTTTCCCTTG ATACTTAGAT GAAGCTAAGA TACCTTTTTT TACCAATAAT  | 1620 |
|    | TCCCTAGGAA ATAGAAAGTA GCCATTTAAT TCATCATCGA TAACAGCAAC AATCAGGTAA  | 1680 |
| 45 | TCAGCAAACCT CTTCAATTTT GTATGGCCGA TTATAATTAT CtTCGTCTTT TGTCCAACAT | 1740 |
|    | GTCACGAAAT ATCCCGATTT AGTCGGTGTT TTCTTAGCTA ACCTACTTTG ATATGTTTCC  | 1800 |
|    | TCTTTAAAGC TAAATGTTAA TGCYTCGTAA TCTTGATTAT ATTTTCTTC AGTTAAATCT   | 1860 |
| 50 | TTAACTTCTG ATTCTTCACT AAAAATATTT TTCAACAGTA TTTTAGATTT ACACATATGC  | 1920 |
|    | CAATCTCACT TTATTTTTTC ATAATCGTAT CATATATTTA TTTTTTTCGA AAAATACACT  | 1980 |

|    |  |      |
|----|--|------|
|    | TGTATCAACT GTCAAACGAT CACGTAATAA ATAGACGATT AACATTGcTG CTAAAGCACA  | 2100 |
|    | AAGTGACTION GCAATTAATA ATGACCAAAT GACACCTGTT AGTCCAAACA AAGCATTGAT | 2160 |
| 5  | AATAAATAAT ACTGGAATGA TAATTGCACC TTGTAAAATG GCCATAATTG TAGCACCACG  | 2220 |
|    | ACCTTGCCCA GTCGCTTGAA GCATACCAGT AAACAAGAAA CCTATACCAT TTAATAATAA  | 2280 |
|    | TGATGCCATT GTTACTTTCA AAATAAATGt CGCCATCTCA ACAATGGCTT GATCAGTAGT  | 2340 |
| 10 | AAATAGTCCG ACCATATGAT GTCCAATTGT AAATACAGCA CTCATACATA CAACAAAGAT  | 2400 |
|    | AACGCCGATA GACATGATAA CTGCTTTGAT AACGTCTTTC ATACGGCCTT TATTTGCCAT  | 2460 |
|    | AAAGTTATAT GCAATTAGTG GTACAACACC TTCACATAAT CCCATGATAA TAAGTTCTGG  | 2520 |
| 15 | aaATTGCACA AGTCTAAATG AGATACCATA ACTTGCaATC GCGAAGTTTC CATAATGTGC  | 2580 |
|    | TAAAAATAAA TTAAAACTA ATCCTGTGAA TCCCATTAAG ATACTCATTa AAAATGCAGG   | 2640 |
|    | AATACCGATT TTAAAGATTT CAGAAAGCAT TTCTTTATTA GGTTTCGCAA GTTTAATATT  | 2700 |
| 20 | AACTGACACA ACGTCACTAT TTTTCATAAA ATAAATGATA AAGAACAGAG CAGCAGCAAC  | 2760 |
|    | ATTACTGATT GCAGTACCCA AAGCTGcACC AACAAAGTTT aaATCAAAAC CAAAAATTAA  | 2820 |
| 25 | AATTGGATCT AAAATAATAT TTAAGCCTAC ACTAGCTAAC ATACCAATCA TAGAAACCAT  | 2880 |
|    | TGGTGCCCCA ATTGCACGTG CAAATTGTTC TAATATGAAG AACAAAATTA CAAAAGGTGC  | 2940 |
|    | ACTTAAAAAC ATTACTTTCA AATAATTACT TGTTAAAGCT AACGTTTCAC CTCTCGCCCC  | 3000 |
| 30 | TAAAATTGCT GCGATTTGAT CACTGAATGG TAAAGTAACT AAAATCACGA TAAGTCCTAG  | 3060 |
|    | TGCAATACCA CCATAAATAG AGAACTACT TACAAATTTA CTCTTAmTAT AGTCTTTTCGC  | 3120 |
|    | ACCTAATAAA CGTGAAATAT AAGTTCCTGC ACCAACGCCA AATAAATTAC CTAACCCCAT  | 3180 |
| 35 | T  | 3181 |

## (2) INFORMATION FOR SEQ ID NO: 301:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4029 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 301:

|    |   |     |
|----|---|-----|
|    | TCATCACCTT CAAATAAATA GGCATGCGAT AATTTATTTG AATGATATGC ATTCGTCAAT | 60  |
| 50 | TGTTGCTGTT CATCCATTCA TTACAACTC CCTTTTGCTT TTATATAAAA AGGTTGCCAA  | 120 |
|    | AGAGCAACTA ATTACTGCAA CAATAGCGAC CATGATTTGT GATTATTTTT AGAACCACAA | 180 |

|    |  |      |
|----|--|------|
|    | TTATTAATAC ACTATTTTAA GTATCTCTAA TTGATGATTG TATTATAGAA TTAAAATTGA  | 300  |
|    | TGGAATGCAT CAACTGGCAT AACAAATACA GTAGCACCGC CAACTTCAAC TTCAACTGGA  | 360  |
| 5  | TATGGAATGT ACGAATCCGC ACTGCCTCCC ATAGGTGTAA TAGGTGAAAC CAACTGTTCT  | 420  |
|    | CTATTACCAC ACGTTTGATT AATCACAGAC AATATTTTCAT CTACACGGTC ATCATTGACA | 480  |
|    | CCACATAAGA ATGTTGTATT ACCCGCTCTT AAAAACCAC CTGTTGTTGC CAATTTTGTT   | 540  |
| 10 | GCTCTAAAGT TATTTTAAAC AAGTTGATCT GCAAGTTCCT GACTATCTTG ATCTTGACG   | 600  |
|    | ATCGCTATAA TCATTTTCAT TTTATAACAC CTCTTCTAAC AATTATATCA TATCTTTTCT  | 660  |
|    | AAATATTTGA TGATAGTTTG ATACGTGTCT TCAACAACAT TTTCAAGAGG TTGATCTGCA  | 720  |
| 15 | TTAACGCTTT TGAACCGTTG TGATTCATTA TGAATGATTT CTTGGTAACC TTCAATTACT  | 780  |
|    | TTTTCGTGAA cTTTAAATCT TCTTGATCTA ATCTATTTTG ATCTCTTGAA TTTTAAATAA  | 840  |
| 20 | TACGTTTCGG ACCTACTTCA GCACTAACAT TTAATAAAAT CGTCAAGTCT GGaTATAATC  | 900  |
|    | CATTTATTGC AAATTCGTTT AATGCTCTTA CTCTTCAAC GCCAATCCCT CTAGCATAAC   | 960  |
|    | CTTGATAAGC TAATGAACTA TCGATATAGC GATCACACAA CACAACCTTA CCTTCTTTTA  | 1020 |
| 25 | AAGCTGGTAT GACCTTTAAT ACAAGATGTT CTCTTCTAGA TGCAGCAAAT AACATTGcTT  | 1080 |
|    | CaGTtCTAAT GTCCATATCA TTGCCcTTCT AATACAATTT TACGTATTTTc TTCACCAGTA | 1140 |
|    | GGAACACCAC CTGGTTCTCT AGTCATAATG ACATCATAAT CTTTTACTAA TCTATGGTAA  | 1200 |
| 30 | ACTTCATTAA TTACAGTTGT TTTTCCAGAG CCTTCTGGGC CCTCAAAAGT TATAAAAGCT  | 1260 |
|    | GACATTTTAT TCATCCTCAA CTAAAATTTT ATTATTTTTA ATTCCTTCAA CTATCATTCC  | 1320 |
|    | AGTTTCCAGA TATTCAATTA CCAATTCTAT CATATTTTCA GTTATTGTTT CTCCTTTGAA  | 1380 |
| 35 | AATAATAGGA ATcCCTGGcG GATACGGGAC AATATGTGCG GCCAGAACTT TACCTTTgCC  | 1440 |
|    | TTTTCAAATC ACACCAAGTA ACATATTCAA AGCGTTTTGG TTTATAGTTA CCTTCAGTyG  | 1500 |
| 40 | TTAAAAGTTG TGTTTGTTTA ACTTTAGAAA CTGATTTTTT CGGTAAAATC ATATCTTCAA  | 1560 |
|    | TTTTACGTAA AAGCGAATCA AATAAATACG TATCATCATG ATGCCATAAC GGCAATATCG  | 1620 |
|    | CTAATGCTTG ATAGTCGTCC GCTAATTCTA AATAGATATG TGCATTCTA AACCAATTTT   | 1680 |
| 45 | GAATATCATG ACCTGTAAAA CCTTCATATT TTATCAGCAA CTTCAACGGA TCATCAACTT  | 1740 |
|    | GAAGCATTTc AAAACCCTTC TTCTCCAAAC ATTCGATTAA TTGCGCTCTC TTATCAAAAA  | 1800 |
|    | ACACGGTACT ATCATATGTT TTATAGAACT CGGCAGCTGA CTCTAAACTA GCCATAATCA  | 1860 |
| 50 | AATACGAAGG ACTAGATGTT TGGAAGTAGC TTAGATATTC TATAATAGTT TCTCTATAAG  | 1920 |
|    | GTGCATTTTT ATGAATATAA AGTACCGAGC CCATCGTTAA AGCTGGTAAC GTTTTATGAA  | 1980 |

|    |             |             |            |             |             |            |      |
|----|-------------|-------------|------------|-------------|-------------|------------|------|
|    | CAAAGTGC GC | GCCGTGTGCT  | TCGTCAATGA | GTACAGGAAT  | ATTTAATTGG  | TGCAAAGATT | 2100 |
|    | TGATAACCTC  | TTCTACATTA  | AATGTTTCAC | CGTAATAGTT  | AGGATAAGTC  | AACACAGCAA | 2160 |
| 5  | GTTTGTGACC  | GTCATTATTC  | AAACGGCTTA | AATTAAC TTT | ATTATAATGA  | TTCGTTAACG | 2220 |
|    | GACTTTGATG  | CGTTTCAATA  | AAATGCCCTT | CTTGTTGGCT  | AATATCGAGC  | GCATGTAACA | 2280 |
|    | CAGATTTATG  | TACATTTCTT  | GCCATTAAAG | TATCGCCTTT  | TTTCTGTGAA  | AAAGACTGGA | 2340 |
| 10 | TGACAGATAA  | TATTCCTGAA  | GTGGTGCCAT | TCACTAAGAA  | ATAAGCATCA  | TAATCTGAAT | 2400 |
|    | GTTTCTCCAC  | CTGCTTCATA  | CTTTCCAAAA | TGACTTCTTC  | AGGATGATGT  | AAATCAnCTn | 2460 |
| 15 | AATCCAGGTA  | TTTCAGTTTT  | ATCCATTGTC | ATTGATAATT  | GAGATAAATG  | ACCGATAGTC | 2520 |
|    | ATATTTTTAT  | GACCCGGAAC  | ATGCAAAGAA | ATCGCTTCTT  | CTTGATT TAA | ACTTTCTAAT | 2580 |
|    | TTATTTAAAA  | TAGGTTGCTT  | CATGATATAC | GCTTCCTTTA  | TTTACACTGT  | TTTGGAATTA | 2640 |
| 20 | GTTACTTTCA  | AAAGTATTAA  | TTATATAGTA | ACACTTCTTT  | GACAAAAGTT  | AGTGTTACTT | 2700 |
|    | ATGCAATAGC  | TTGTCTATTG  | TATAATAATT | AATTTCTTTT  | TTGTACTTCG  | ATTTAAAAGA | 2760 |
|    | TATTAGACAT  | AAAATCTAAA  | AACAGCAGTA | AGATGATTTA  | TGATTAAAAA  | CTATCTTACT | 2820 |
| 25 | GCTGTTCACT  | TTTTATAATA  | CTTCTGAATG | TCTTCACTTA  | TACTTCTAGT  | CACAGATTTA | 2880 |
|    | AATAATCAAA  | AGTGACACATT | ATTAAAATAT | CAATTT CACA | CTCAATGCGG  | CTCATCGCAT | 2940 |
|    | TCATTTCTTG  | TCTAGCAACG  | TTCTACTCTA | GCGGAACGTA  | AGTTAGCTAC  | CATCCTCGCT | 3000 |
| 30 | AAGAACCTTT  | CTTGACTTGT  | GACAATCGCT | TGCTTCTTTC  | CTCTCCTTCG  | GCTCTCGCTT | 3060 |
|    | ACTCATTTAG  | CTCTACTAAA  | CTCGTTGCGC | TCTTTTCTCG  | TTTCGTCAGA  | TTCAAACGTT | 3120 |
|    | TTCACTTCGC  | CAAGCCATTT  | TTCTTTGTGT | TTACTTTTTA  | TTTTGACGTT  | TTAGACATAA | 3180 |
| 35 | AAAAAGAGAC  | cTCACGGTCT  | CAACTTGCCT | GGCAACGTTT  | TACTCTAGCG  | GAACGTAAGT | 3240 |
|    | TGGCTTACCAT | CGTCGCTAAA  | GACCTTTCTT | GACTTGTGAC  | AATCGCTTGC  | TTCTTTCTCT | 3300 |
| 40 | TCCTTCGGCT  | CTCGCTTACT  | CATTTAGCTC | TACTAAACTC  | GTTGCGCTCT  | TTTCTCGTTT | 3360 |
|    | CGTCAGATT C | AAACGTTTTT  | ACTTCGCCAA | GCCATTTTTT  | TTTGTGTTTA  | CTTTTTATTT | 3420 |
|    | TGACGTTTTA  | GrCATAAAAA  | AAAGAGACcT | TGCGGTCTCA  | ATGCGGCTCA  | TCGCATCCAT | 3480 |
| 45 | TTTTTGCC TG | GCAACGTTCT  | ACTCTAGCGG | AACGTAAGTT  | GGCTACCATC  | GwCGCTAAgA | 3540 |
|    | aCCTTTCTTG  | ACTTGTGACA  | ATCGCTTGCT | TCTTTCCTCT  | yCTTCGGCTC  | TCGCTTACTC | 3600 |
|    | ATTTAGCTCT  | ACTAAACTCG  | TTGCGCTCTT | TTCTCGTTTC  | GTCAGATTCA  | AACGTTTTCA | 3660 |
| 50 | CTTCGCCAAG  | CCATTTTTCT  | TTGTGTTTGC | TTTTTATTTT  | GACGTTTTAG  | ACATAAAAAA | 3720 |
|    | AAGAGACCTT  | GCGGTCTCAA  | TGCGGCTCAT | CGCATCCATT  | TTTTGCCTGG  | CAACGTTCTA | 3780 |

CATGGGAACA GGTGTGACCT CCTTGCTATA GTCACCAGAC ATATGAATGT AATTTATACA 3900  
 TTCAAAACTA GATAGTAAGT gAAAAGTGGA TTTTGCTTCG CAAAACATTT ATTTTGGATT 3960  
 5 AAGTCTTCGA TCGATTAGTG ATTCTGTCAG CTCCACATGT GCACCATGCT TGCCACCTCG 4020  
 GAACCTATT 4029

## (2) INFORMATION FOR SEQ ID NO: 302:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 7159 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 302:

20 GATGCAATAG TTGAGTAGTT ATAAGTAGCT ACATACAACC GCTCAAATAT AGGTTCAAGA 60  
 ACATTTTTTAA TGAAGAAAGC GATTTTCCcm CAGAGTGCAA ACGCTTGA CTACTAATACGAA 120  
 ATGTCACCTA TGTATGGCGT GACTTATTAT ACAGGaGGTG CAAAGTATGT TTGCTATTAT 180  
 25 TGAAACAGGT GGAAAACAAA TCAAAGTAGA AGAAGGTCAA GAAATCTTCG TTGAAAAATT 240  
 AGACGTAAAC GAAGGAGATA CTTTTACATT TGATAAAGTA TTATTTGTAG GTGGAGATTC 300  
 AGTTAAAGTT GGAGCGCCAA CAGTTGAAGG TGCAACAGTT ACTGCTACTG TTAATAAACA 360  
 30 AGGTCGCGGT AAAAAAATCA CTGTATTAC ATACAAACGT CGTAAAAATT CAAAACGTAA 420  
 AAAAGGCCAT CGTCAACCAT AACTAAATT AACAAATCGAT AAAATCAACG CGTAATTATT 480  
 ATGATTACTG TTGATATTAC AGTTAATGAT GAAGGCAAAG TAACAGACGT TATTATGGAT 540  
 35 GGCCATGCTG aCCATGGTGa ATATGGTCAT GATATCGTTT GTGCTGGAGC TTCagCTGTA 600  
 TTGFTTGGTA GTGTTAATGC GATTATAGGA TTGACATCTG AGAGACCAGA TATCAATTAT 660  
 GACGACAATG GTGGTCATTT TCATATAAGA AGCGTTGATA CAAACAACGA TGAAGCGCAA 720  
 40 CTAATTCTTC AAACAATGCT TGTGTCTTTA CAACTATTG AAGAAGAATA TAATGAGAAT 780  
 ATTAGATTAA ATTATAAGTG AGGTGCATTC CGATGTTAAA ATTAACTTA CAATTCTTCG 840  
 45 CATCTAAAAA AGGGGTAAGT TCTACAAAAA ACGGACGTGA CTCTGAATCA AAACGCTTAG 900  
 GTGCTAAACG TGCTGACGGT CAATTCGTAA CAGGTGGTTC AATTTTATAT CGCCAACGTG 960  
 GTACTAAAT TTACCCTGGT GAAAATGTAG GTCGTGGTGG CGATGATACA TTATTCGCTA 1020  
 50 AAATCGACGG CGTTGTAAA TTCGAACGTA AAGGTGCGGA CAAAAACAA GTTTCTGTAT 1080  
 ATGCAGTAGC TGAATAATTT TGTCTAGTTA ACACCAGAAG TGAATCTTCT GGTGTTtTTT 1140

|    |  |      |
|----|--|------|
|    | AGACGTTATA CTAAATGTGC AcTGTATAAG AGCCCCTAAT CACTAAACTA TAAGGGGGAC  | 1260 |
|    | AAAGGAATAC AGTTGCAGCG TTTAAAGAAT AAAGTGTACC ACAATTGGTG CTGAGAAATA  | 1320 |
| 5  | TAAGTATTTT AAAGCAAAGA TTTATAAAAG TAACTGCATA AGAGCCCCTA ATTATTTACA  | 1380 |
|    | ATATATAAGG GGCTCTAATA TGCTATAATT ATTGGGAAAA TGAAAATTAT ATGTAAAAGA  | 1440 |
| 10 | GGTGAGATAT ATGTTTGTCTG ATCAAGTCAA AATATCTCTT AAAGCCGGTG ATGGTGGTAA | 1500 |
|    | TGGTATTACC GCATACAGAA GAGAAAAATA TGTACCATT TGGTGACCAG CTGGCGGTGA   | 1560 |
|    | CGGTGGTAAA GGTGCTTCAG TCGTATTTGA AGTGGATGAA GGTTTAAGAA CGTTATTAGA  | 1620 |
| 15 | TTTTAGATAT CAACGTCATT TTAAGCAAG CAAAGGTGAA AATGGCCAAA GTAGTAATAT   | 1680 |
|    | GCATGGTAAA AATGCGGAAG ATTTAGTATT AAAAGTTCCA CCTGGTACAA TTATTAAAAA  | 1740 |
|    | TGTTGAAACA GACGAAGTGT TAGCAGATCT TGTTGAAGAT GGTCAAAGAG CTGTAGTAGC  | 1800 |
| 20 | GAAGGGCGGT CGAGGTGGCC GAGGTAATTC ACGTTTTGCA ACACCTAGAA ACCCTGCACC  | 1860 |
|    | TGACTTCAGT GAAAAAGGTG AACCAGGTGA GGAATTAGAT GTATCTTTAG AATTGAAATT  | 1920 |
|    | ATTAGCTGAT GTAGGATTAG TAGGTTTCCC TAGTGTTGGT AAATCGACTT TATTATCTAT  | 1980 |
| 25 | CGTTTCAAAA GCTAAGCCTA AAATTGGGGC ATATCATTTT ACAACGATTA AACCAAATCT  | 2040 |
|    | AGGTGTTGTT TCAACGCCTG ATCAACGTAG TTTTGTTATG GCAGATTIAC CAGGTTTAAT  | 2100 |
|    | TGAAGGTGCA TCTGATGGCG TTGGATTAGG ACATCAATTT TTAAGACATG TAGAGAGAAC  | 2160 |
| 30 | AAAAGTTATT GTTCACATGA TTGATATGAG CGGTTCTGAA GGTAGAGAAC CTATTGAAGA  | 2220 |
|    | TTATAAAGTC ATTAATCAAG AATTAGCTGC GTACGAGCAA CGTTTGAAG ATAGACCTCA   | 2280 |
| 35 | AATCGTAGTA GCTAACAAGA TGGATTTACC TGAATCACAA GATAATTTAA ACTTGTTTAA  | 2340 |
|    | AGAAGAAATT GCGGAAGATG TGCCAGTTAT TCCAGTTTCA ACAATAACGC GTGATAATAT  | 2400 |
|    | TGATCAATTA TTATATGCAA TAGCAGATAA ATTAGAAGAA TATAAAGATG TTGACTTCAC  | 2460 |
| 40 | AGTTGAAGAA GAGGAGTCAG TTGGCATTAA CCGAGTATTA TATAAACATA CACCGTCACA  | 2520 |
|    | AGATAAATTT ACAATTTCAA GAGATGATGA TGGTGCTTAT GTGGTAAGTG GTAATGCTAT  | 2580 |
|    | TGAAAGAATG TTTAAAATGA CTGACTTTAA CAGTGATCCA GCAGTACGTC GATTTGCTCG  | 2640 |
| 45 | TCAAATGCGT TCGATGGGTA TTGATGATGC GCTTAGAGAA CGTGGTTGTA AAAATGGTGA  | 2700 |
|    | TATCGTTAGA ATTCTTGGCG GAGAATTTGA ATTCGTTGAA TAGGAGCGAA ACATGATGGA  | 2760 |
|    | CAATAAAGAT TATAAAAAGT TTTATTTAAT TAGAGAAGAT GTCTTGCCTG AATCCGTGGT  | 2820 |
| 50 | TAAAACATTG AAGATTAAAG ATGCCTTAAA AAGTGATCCG ACATTGTCCA TTTATGATGC  | 2880 |
|    | CGTTAAACAG TTTGATCTAT CTAGAAGTGC TTTTATAAAA TATAGAGAAA CGATATTTCC  | 2940 |

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|----|--|------|
|    | TGTTGGTATG TTGGCACGTG TACTAGATGT TATATCAAAG TTAGAACTAT CTGTATTAAC  | 3060 |
|    | GATTTCATCAA AGTATTCCAA TGGAAGAAAA AGCAACAATA ACATTATCAC TGAATGCTAA | 3120 |
| 5  | ATCTAAAGAA ACTTCAGTAG AAGATGTTAT TGGCGCTTTG AGAAATTTAG ATTATGTATC  | 3180 |
|    | AAAAGTAGAA TTAATTAGTA TGAGTATGTA AGGATGTGCC TATAATGTAC GCGTATGTCA  | 3240 |
|    | AAGGTAAGTT AACACATTTA TATCCTACAC ACGTAGTTGT TGAAACTGCT GGTGTTGGTT  | 3300 |
| 10 | ATGAAATTCA AACACCAAAT TCTTATCGTT TTCAAAGCA TCTAGATCAT GAAGTTTAA    | 3360 |
|    | TTCATACATC TTTAATTGTT CGTGAAGATG CACAATTATT GTATGGATTT AGTAGTGAAG  | 3420 |
|    | AAGAGAAAGA TATGTTCTTG AGTTTAATTA AAGTTACTGG TATTGGTCCG AAATCAGCTT  | 3480 |
| 15 | TAGCTATTTT AGCGACAAGT ACGCCTAATG AAGTAAAACG TGCCATTGAA AATGAAAATG  | 3540 |
|    | ATACGTATTT AACTAAATTC CCAGGAATTG GTAAGAAAAC GGCAAGACAG ATTGTCTTAG  | 3600 |
|    | ATTTAAAAGG TAAAGTGAAA ATTACTGAAG AAGATAGCGA TTCATTATTA CAAGTAGACG  | 3660 |
| 20 | CTACTTCGAC GGTGCAAGAT CAATTCGTGC AAGAAGCAAT GTTAGCGTTA GAAGCATTAG  | 3720 |
|    | GTTATTCTAA ACGAGAGCTT GCAAAAGTTG AGAAAACGTT AAATAAAAAT AAATATGACT  | 3780 |
|    | CAGTTGATGA AGCTGTTAAG GCAGGTCTTC AATTAGTTGT ATCTTAATTT TAAATAGATT  | 3840 |
| 25 | AATAGGGGAA GTGTTGTCAT GAATGAGCGT ATGGTTGATC AATCAATGCA TAGTGAAGAA  | 3900 |
|    | ACTGATTTCTG AATTGTCGCT TAGACCTACG AGATTACGAC AATATATTGG TCAAAATTCA | 3960 |
| 30 | ATAAAAAGTA ATTTAGAAGT ATTTATTAAA GCGGCTAAAC TTCGTCATGA ACCATTAGAT  | 4020 |
|    | CATGTATTGC TTTTGGCCCC CCCTGGATTA GGTAAGACAA CATTATCTAA TATCATTGCC  | 4080 |
|    | AATGAAATGG AAGTTAATAT ACGTACAGTA TCAGGGCCTT CATTAGAAAG ACCTGGTGAT  | 4140 |
| 35 | TTGGCTGCAA TTTTATCAGG ACTTCAACCT GGAGATGTTT TGTTTATTGA TGAAATACAC  | 4200 |
|    | AGACTGAGTA GTGTTGTTGA AGAAGTGTTA TACCCTGCAA TGGAAGATTT CTTTTAGAT   | 4260 |
|    | ATTATCATTG GTAAAGGCGA TGAGGCTAGA AGTATCCGTA TCGACTTACC TCCATTCACT  | 4320 |
| 40 | TTGGTAGGTG CAACAACGCG AGCTGGCAGC TTAACAGGTC CACTAAGGGA TCGATTGTTG  | 4380 |
|    | GTGCACTTAA GATTAGAATA TTATAACGAA TCAGATTTAA AAGAAATCAT TATTAGAACA  | 4440 |
|    | GCTGAGGTTT TAGGCACAGG TATTGATGAA GAAAGTGCCA TTGAACCTGC TAAACGTTCT  | 4500 |
| 45 | AGAGGGACTC CAAGAGTAGC AAATCGACTA TTGAAGCGGG TAAGAGACTT CCAGCAAGTG  | 4560 |
|    | AATGAAGATG AACAAATATA CATTGAAACA ACGAAGCACG CATTAGGTTT ACTTCAAGTT  | 4620 |
| 50 | GATCAACACG GACTAGATTA CATTGATCAT AAAATGATGA ACTGTATTAT TAAGCAGTAT  | 4680 |
|    | AATGGCGGAC CTGTTGGTTT AGATACGATT GCCGTAACAA TTGGTGAAGA ACGTATTACA  | 4740 |

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|----|--|------|
|    | GGCAGAAAAG CAACACCATT AGCTTATGAA CATTTTGCAA AGTCGAATGA GGAGAGAGAA  | 4860 |
|    | TAACGTGAAT ATTGAAGAAT TTGACTATGA CTTACCAGAA TCATTAATTG CTCAAACGCC  | 4920 |
| 5  | TTTAAAAGAT CGTGATCATA GTCGTTTATT AGTCATGGAT AGAGAAACTG GTGAAATGAA  | 4980 |
|    | ACATTTACAT TTCAAAGATA TCATTGAGTA TTTTAGACCT GGTGATACAT TAGTGCTTAA  | 5040 |
| 10 | CGATACGCGA GTAATGCCAG CTAGACTTTT TGGTTTAAAA GAAGAAACTG GTGCAAAAGT  | 5100 |
|    | TGAAATGTTA ATGTTAACTC AAATTGAAGG TAATGATTGG GAAGTCTTAC TGAAACCAGC  | 5160 |
|    | TAAGCGTATT AAAGTTGGTA ATAAATTGAA TTTTGGTAAT GGCAAAATTA TAGCTGAATG  | 5220 |
| 15 | CATAAAAGAA ATGGATCAAG GTGGACGCAT CATGCGTTTA CATTATGAAG GTATTTTACA  | 5280 |
|    | AGAAAGATTA GATGAATTAG GGGAAATGCC ACTGCCACCA TACATCAAAG AACGTTTAGA  | 5340 |
|    | TGATCCAGAT CGTTATCAAA CAGTTTACGC TAAAGAAAGT GGTTTCAGCGG CAGCACCAAC | 5400 |
| 20 | AGCAGGATTA CATTTTACTG ATGAGTTATT AATTGAAATT AAAAATAAAG GTGTTAATAT  | 5460 |
|    | CGCATTTGTT ACATTACATG TTGGGTTAGG TACGTTTAGA CCGGTGAGCG TAGACGATGT  | 5520 |
|    | GAATGACCAC GAAATGCATA GTGAATATTA TCAAATGACm CAAGAAACAG CTGATTTATT  | 5580 |
| 25 | AAATGATACT AAGcCAAAGG ACATCGCATT ATATCAGTTG GTACAACTTC AACACGTACA  | 5640 |
|    | CTTGAAACAA TTCGACGCGA TCATGATAAA TTTGTTGAAA CGAGTGGCTG GACTAATATA  | 5700 |
|    | TTTATTTATC CAGGATTTGA TTTTAAAGCA ATTGATGGCC AGATTACTAA TTTTCATTTA  | 5760 |
| 30 | CCAAAATCAA CATTAGTTAT GCTAGTATCA GCGTTTAGTA GTCGTGAAAA TGTTCTGAAT  | 5820 |
|    | GCTTATAAAA CGGCAGTAAA TTTAGAATAT AGATTCTTTA GTTTTGGCGA TGCAATGTTA  | 5880 |
| 35 | ATTATATAAA AAGAATGTGA GGATTTTGAA TATGCCTGCA GTAACATACG AACACATTAA  | 5940 |
|    | AACTTGTAAG CAATCAGGTG CGCGTTTAGG TATCGTGAC ACACCACACG GTTCATTTGA   | 6000 |
|    | AACACCTATG TTTATGCCAG TTGGTACTAA AGCAACCGTT AAAACAATGA GTCCAGAAGA  | 6060 |
| 40 | GTTAAGACAA ATTGAAGCAA AAATCATTTT GGGCAACACA TATCATTTGT GGTTACAACC  | 6120 |
|    | CGGAAATGAT ATTATCAAAC ACGCTGGGGG ATTACATAAA TTCATGAATT GGGATGGTCC  | 6180 |
|    | GATTCTTACA GATTCAGGCG GTTTCCAAGT GTTTAGTTTA AGTAATTTAC GTAAAATTAC  | 6240 |
| 45 | AGAAGAAGGC GTGGAATTTA GACATCATAC TAATGGGTCT AAATTATTTT TGAGTCCTGA  | 6300 |
|    | GAAATCAATG CAAATTCAAA ATGATTTAGG ATCTGATATT ATGATGGCAT TTGATGAATG  | 6360 |
|    | TCCACCGATG CCTGCTGAAT ATGATTATGT AAAAAATCT ATTGAACGTA CAACACGTTG   | 6420 |
| 50 | GGCGAAAAGA TGTCTAGATG CACACCAAAG ACCTGAAGAT CAAGCATTGT TCGGCATTAT  | 6480 |
|    | ACAAGGTGGC GAATATGAAG ATTTAAGAGA ACAAAGTGCA AAGGATTTAG TAGAATTAGA  | 6540 |

AATGGTTGAA CATAcAGAGc AGTTTATGCC TAAAGATAAA CCAAGATATT TAATGGGTGT 6660  
 AGGATCTCCa GATGCGTTAA TCGAATGTAG TATTCGCGGC ATGGATATGT TTGATTGTGT 6720  
 5 CTTACCGACA CGTATTGCCA GAAATGGTAC TTGTATGACA TCGCAAGGTC GTTTAGTTAT 6780  
 TAAAAATGCA AAATTTGCAG ATGATTTAAG ACCGTTAGAT GAGAATTGTG ACTGTTATAC 6840  
 ATGTCAAAAC TATTCAAGAG CGTATATACG TCATTTAATC AAGGCAGAGG AAACTTTTGG 6900  
 10 TATTCGTCTT ACTACTATTC ATAATTTACA TTTTCTGCTA AAATTAATGG AAGATATAAG 6960  
 ACAAGCCATT CGAGAAGATC GTCTTTTAGA TTTCAAAGAA GAATTCTTCG AGCAATATGG 7020  
 15 ATTAAATGTT GAGAACCCAA AAAACTTTTA AGCAAGAGGA GCGTATAAAA TGCAATTTTC 7080  
 ATTACTAATA TATATAGTCG TAATTTTGC GGTATGTAT TTCTTGATGA TCAGACCACA 7140  
 ACAAAAAC TGCGAAACA 7159

(2) INFORMATION FOR SEQ ID NO: 303:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 3159 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 303:

30 TCCATTTATA CAAATTTCTA AAGCAGaAA TAAGATAGAA GATATCGGCC AAGGTGCAGA 60  
 AATCATCAAA AGAACACAAG ACATTACTAG CAAACGATTA GCTATAACTC AAAACATTCA 120  
 35 ATTTGATTTT GTAAAAGATA AAAAATATAA CAAAGATGCC CTAGTTGTTA AGATGCAAGG 180  
 CTTcATTAGC TCTAGaCAa CATATTcAGA CTTAAAAAAA TATCCATATA TTAAAAGAAT 240  
 GATATGGCCA TTTCAATATA ATATCAGTTT GAFAACGAAA GACTCTAATG TTGATTTAAT 300  
 40 TAATTATCTT CCTAAAAATA rAATTGATTC AGCAGATGTT AGTCAGAAAT TAGGCTATAA 360  
 TATCGGCGGA AACTTCCAAT CAGCGCCATC AATCGGAGGC AGTGGCTCAT TCAACTACTC 420  
 TAAAACAATT AGTTATAATC AAAAAAATA TGTACTGAA GTAGAAAGTC AGAACTCTAA 480  
 45 AGGTGTTAAA TGGGGAGTGA AAGCAAATTC ATTCGTTACA CCGAATGGTC AAGTATCTGC 540  
 ATATGATCAA TACTTATTTG CACAAGACCC AACTGGTCCA GCAGCACGAG ACTATTTcGT 600  
 50 CCCAGATAAT CAACTACCTC CTTTAATTCA AAGTGGCTTT AATCCATCAT TTATTACAAC 660  
 ATTGTCACAC GAAAGAGGTA AAGGTGATAA AAGCGAGTTT GAAATcACTT ACGGCAGAAA 720

|    |            |             |            |             |             |             |      |
|----|------------|-------------|------------|-------------|-------------|-------------|------|
|    | AAAAATTAAA | AGCATCACAC  | CTAAGTAAAC | AGTTCaATCA  | TCTTAAAAAA  | TCCTGGGACA  | 900  |
|    | CTTCATACTT | GTCTCAGGAT  | TTTTTmACAA | ATTGAATCAG  | CCTCATAACA  | TTAAATTATT  | 960  |
| 5  | TTATCGTACA | TTAAATTTAA  | TAATAACAAC | TGATTTTTTAT | AAGAATAAAG  | TATCGAmCCA  | 1020 |
|    | TAGTAGATAC | ACAAATAATA  | CAAATGAAAC | AATTTAACTT  | GAAAGCTTAa  | ATAAATATTA  | 1080 |
|    | TCAAGTTAAT | AAACAATTAA  | TTTTTAGATG | GATTCATCAA  | AAATCGTAAA  | AAAGCACAAT  | 1140 |
| 10 | TTGTATTTTA | CAACATTAA   | TTAAAAAAGA | AAGCAAGACA  | TTCGTGCAAT  | CGGTTACCTT  | 1200 |
|    | AAATTGTTTA | CAACTGTCAA  | CAATACCAAG | GTTTTATTAA  | CTATATTTCT  | CACAAAATTA  | 1260 |
| 15 | GCTTTTAGCA | TTCCAAACAA  | AAAAGGTTAA | ATCGAACGGA  | ATTATGGCAT  | TTTTAACTTA  | 1320 |
|    | ATTGTAAAAA | AAGTTGATAA  | TGGTCAATTG | TTAATGAACA  | GTTAATTATA  | ATAACGCCCA  | 1380 |
|    | AAATATATTA | TTATTTAATT  | AAGTTAAATA | AAATTATAGA  | AAGAAAGTGA  | AACTTATGCT  | 1440 |
| 20 | TAAAAATAAA | ATATTAAC TA | CAACTTTATC | TGTGAGCTTA  | CTTGCCCCCTC | TTGCCAATCC  | 1500 |
|    | GTTATTAGAA | AATGctAAAAG | CTGCTAACGA | TACTGAAGAC  | ATCGGTAAAG  | GAAGCGATAT  | 1560 |
|    | AGAAATTATC | AAAAGGACAG  | AAGATAAAAC | AAGTAATAAA  | TGGGGCGTGA  | CTCAAAATAT  | 1620 |
| 25 | TCAATTTGAT | TTTGTAAGG   | ATAAAAAATA | TAACAAAGAT  | GCTTTGATAT  | TAAAGATGCA  | 1680 |
|    | AGGATTCATT | AGCTCTAGAA  | CAACATATTA | CAACTATAAA  | AAAAC TAATC | ATGTTAAAGC  | 1740 |
| 30 | TATGCGATGG | CCATTCCAAT  | aTaATATTGG | TTTAAAAACA  | AATGATAAAT  | ATGTTTCTTT  | 1800 |
|    | AATTAATTAT | TTACCTAAAA  | ATAAAATTGA | ATCTACAAAC  | GTGAGTCAGA  | CATTAGGATA  | 1860 |
|    | CAATATCGGT | GGTAATTTCC  | AATCAGCCCC | ATCACTCGGT  | GGTAATGGAT  | CATTTAACTA  | 1920 |
| 35 | TTCTAAATCG | ATTAGCTATA  | CACAACAAAA | TTATGTAAGT  | GAAGTAGAAC  | AACAAAAC TC | 1980 |
|    | AAAAAGTGTT | TTATGGGGCG  | TCAAAGCGAA | TTCATTCGCC  | ACTGAATCAG  | GTCAAAAATC  | 2040 |
|    | AGCCTTTGAT | AGCGATTTAT  | TTGTAGGCTA | CAAACCTCAT  | AGTAAAGATC  | CTAGAGATTA  | 2100 |
| 40 | TTTCGTTCCA | GACAGTGAGT  | TACCACCTCT | TGTACAAAGT  | GGATTTAACC  | CTTCATTTAT  | 2160 |
|    | CGCCACAGTA | TCTCATGAAA  | AAGGTTCAAG | CGATACAAGC  | GAATTTGAAA  | TTACTTACGG  | 2220 |
|    | AAGAAACATG | GATGTCACTC  | ATGCCATTAA | AAGATCAACG  | CATTATGGCA  | ACAGTTATTT  | 2280 |
| 45 | AGACGGACAT | AGAGTCCATA  | ATGCATTTGT | AAATAGAAAC  | TATACTGTGA  | AATACGAGGT  | 2340 |
|    | CAATTGGAAG | ACTCATGAAA  | TCAAGGTGAA | AGGACAGAAT  | TGATATGAAA  | ATGAATAAAT  | 2400 |
| 50 | TAGTCAAATC | ATCCGTTGCT  | ACATCTATGG | CATTATTATT  | ACTTTCTGGT  | ACTGCTAATG  | 2460 |
|    | CTGAAGGTAA | AATAACACCA  | GTCAGCGTAA | AAAAAGTCGA  | TGACAAAGTT  | ACTTTATACA  | 2520 |
|    | AAACAACAGC | CACAGCAGAT  | TCTGATAAAT | TTAAAATTTT  | ACAGATTTTA  | ACATTTAATT  | 2580 |

|    |   |      |
|----|---|------|
|    | ACTCAGGCTT TGTGnAACCT AATCCTAATG ACTATGACTT TTCAAAATTA TATTGGGGAG | 2700 |
|    | CTAAATACAA TGTATCTATA AGCTCACAAT CTAATGATTC AGTAAACGTC GTTGATTATG | 2760 |
| 5  | CACCAAAAAA TCAAAATGAA GAGTTTCAAG TTCAAAATAC TTTAGGCTAT ACATTTGGTG | 2820 |
|    | GTGACATTAG TATCTCTAAT GGTTTATCTG GTGGACTTAA TGGAAATACA GCTTTTTCTG | 2880 |
| 10 | AAACAATTAA TTATAAACAA GAAAGTTACA GAACAACATT AAGTCGCAAC ACAAATTATA | 2940 |
|    | AAAATGTTGG CTGGGGAGTT GAAGCACATA AAATTATGAA TAATGGTTGG GGACCTTATG | 3000 |
|    | GAAGAGATAG CTTCCACCCA ACATATGGTA ATGAACTCTT CTTAGCTGGC AGACAAAGCA | 3060 |
| 15 | GTGCATACGC TGGCCAAAAC TTCATAGCGC AACACCAAAT GCCATTATTA TCTAGAAGTA | 3120 |
|    | ACTTCAATCC AGAATTTTTA AGCGTACTAT CACACAGAC                        | 3159 |

## (2) INFORMATION FOR SEQ ID NO: 304:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3821 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 304:

|    |  |     |
|----|--|-----|
| 30 | GCAAAACTT TTCTCCAAT ATGTCAGACT ATAATGGCAT GAACAAATT GATATGATGA     | 60  |
|    | ATCAAATTAA AGTTGATACG ATGTTGCATG GTTATCACGC TGGATTTTTTA TTTGCATTAT | 120 |
|    | TGATTACAGT TGTTAGTTTC TTTTGTTCAT TTATGTTACA AGGTAAGAAA AAAGAAGTTG  | 180 |
| 35 | ATTCTCGTCA ATAAATATAA GTTGCTAGCT ATATAAAGCT TTTTAGCAAA AGTTCAACAT  | 240 |
|    | ATTGACTTAT CCGGCATTTT AGATTAAAT ATTTTATTTC CGATTAGAAT AATAAGAATA   | 300 |
|    | AGGAGATATA TTCTATGAAA AGACTTTTAT TTGTGATGAT AGCTTTCGTT TTCATATTGG  | 360 |
| 40 | CTGCATGCGG AAACAATTCG TCGAAAGACA AGGAAGCTAG TAAAGATAGC AAGACAATTA  | 420 |
|    | ATGTTGGGAC TGAGGGGACT TATGCACCAT TTAGTTTCCA CGATAAAGAT GGTAAATTAA  | 480 |
| 45 | CTGGTTACGA TATTGATGTT ATTAAAGCAG TGGCTAAAGA AGAAGGTTTA AAACCTAAAT  | 540 |
|    | TTAATGAAAC TTCTTGGGAT TCTATGTTTG CAGGTTTAGA CGCAGGGCGT TTTGATGTAA  | 600 |
|    | TCGCGAACCA AGTAGGTATT AATCCTGATA GAGAAAAGAA ATATAAATTT TCTAAGCCTT  | 660 |
| 50 | ACACATTCTC AAGTGCTGTT TTAGTTATTTC GTGAAAATGA AAAAGATATT AAAGATTTTG | 720 |
|    | ATGATGTTAA AGGTAAGAAG TTAGCACAAA CATTACATC TAATTATGGT AAATTAGCTA   | 780 |

|    |            |             |             |             |            |             |      |
|----|------------|-------------|-------------|-------------|------------|-------------|------|
|    | AAAAACCTAA | TGcTAAGATC  | AAAGCAATCA  | AAGGTAATGC  | TGAACAAAGT | AGATCTGCAT  | 960  |
|    | TTGCATTTTC | TAAAAAAGCA  | GATGATGAAA  | CAGTTCAAAA  | ATTCAATGAT | GGCTTGAAAA  | 1020 |
| 5  | AAATCGAGGA | AAACGGTGAA  | TTAGCTAAAA  | TAGGTAAGAA  | ATGGTTTGGT | CAAGATGTTT  | 1080 |
|    | CTAAATCTAA | ATAGCGAACA  | ACAACATGCG  | CTAGATGCTG  | CAAAACAAGC | TTTCGGACCT  | 1140 |
|    | ATGCTAGAAG | GTTTGGTCAA  | ATATTCAATT  | CCTATTACAT  | TAGTTACATT | TGTTTTAGGA  | 1200 |
| 10 | TTGATTATTG | CATTATTTAC  | AGCATTAATG  | CGAATTTCAA  | CGAGTAAAAT | TTTAAGAAGT  | 1260 |
|    | ATTTACCGTG | TCTATGTATC  | TATTATTCTGA | GGAACACCAA  | TGATAGTACA | ACTATTTATC  | 1320 |
| 15 | ATATTTTATG | GTATTCCAGA  | ATTAGGTAGA  | TTATTAACAA  | ATGACGCTGA | CAACCAATGG  | 1380 |
|    | ACATTGGCAC | CTGTAGTGGC  | TGCTATTATT  | GGTTTATCAT  | TAAATGTAGG | TGCGTATGCT  | 1440 |
|    | TCGGAAATTA | TTCGTGGCGG  | TATTATTTCT  | ATACCGAAAG  | GACAAACAGA | AGCTGCaTAT  | 1500 |
| 20 | TcCaTCGGTA | TGACGTATGG  | TCAAACGATA  | CAACGTATCA  | TTTTACCGCA | GGCAATTCTGA | 1560 |
|    | GTGTCGATTc | CTGCACTAGG  | TAATACATTT  | TTAAGTTTAA  | TCAAAGATAC | ATCATTATTA  | 1620 |
|    | GGATTTATTT | TAGTGGCTGA  | AATGTTTAGA  | AAAGCTCAAG  | AAGTTGCGTC | TACAACATAT  | 1680 |
| 25 | GAATATTTAA | CAATTTATGT  | GTTAGTTGCG  | CTAATGTACT  | GGGTGGTATG | CTTTATTATT  | 1740 |
|    | TCAATTATCC | AAGGTATCTA  | TGAATCTTAT  | ATTGAAAGAG  | GGTATCGCTC | ATGATTCAAT  | 1800 |
| 30 | TGAACAATAT | CCATAAAATCA | TTTAATGATG  | TTGAAGTCAT  | CAAAGGTATT | GATTTATCTG  | 1860 |
|    | TTGAACAAGG | TGAGGTTGTA  | ACCTTAATCG  | GTCGATCTGG  | TTCAGGTAAA | ACAACATTGT  | 1920 |
|    | TACGTATGAT | TAATGCATTA  | GAAATTCCAA  | CTGAAGGTAC  | AGTTTATGTT | AACGGCAAAA  | 1980 |
| 35 | CATATACATC | TAAAGATAAA  | AAATCACAAA  | TAGAAGTTCTG | TAAACAGTCT | GGTATGGTAT  | 2040 |
|    | TTCAAAGTTA | TAACCTTTTT  | CCGCATAAGA  | CGGCATTAGA  | AAATGTAATG | GAAGGTCTTA  | 2100 |
|    | TCAcAGTTAA | AAAGTTGAAA  | AAGGATGAGG  | CACGTGGGAA  | ATCACTTGAG | TTACTTGAGA  | 2160 |
| 40 | AAGTTGGTTT | AACACATGTC  | AAAGATCAAC  | GTCCACATGC  | ATTATCAGGT | GGTCAACAAC  | 2220 |
|    | AACGTGTTGC | TATTGTCAAG  | AGCACTAGCA  | ATGAACCTTA  | AAGTGATGTT | GTTTGATGAA  | 2280 |
|    | CCAACATCTG | CACTTGATCC  | TGAACTTGTG  | AATGATGTTT  | TAAAGGTTAT | TAAAGATTTG  | 2340 |
| 45 | GCTAATGAAG | GCATGACAAT  | GGTCATTGTG  | ACACATGAAA  | TGCGTTTTGC | TAAAGAAGTA  | 2400 |
|    | TCTAATAACA | TTGTATTTAT  | TcmTGAAGGC  | ATGATCGGAG  | AACAAGGGGC | TCCAGAAGAG  | 2460 |
| 50 | ATGTTCAATC | GTCCGAAAAC  | AGAAGAATTA  | AGACGTTTCT  | TAAATGTTAT | AAATGAAGAA  | 2520 |
|    | TAATCAAATA | GAACCACGTA  | TCATGTTTTA  | GTATGGCGAT  | GAAGCCATAT | ACATGATGCG  | 2580 |
|    | TGGTTCTTTG | TTATGTTGTC  | ATAATCTTGG  | AGCGATATTT  | TAACGACGTT | TATGATTTAA  | 2640 |

TTCTACATGT GCGTTAAAAC CTTTTTTGAA TTGTTGGACG CCATAGTCTT CTGATGACTC 2760  
 TGAAAAGTCA CCGGTAATAC CATAAAAATT ATAGCGATCA ATATGATGCG CTTTAGCAAA 2820  
 5 CTTAATCATT TCCCactGCA AATGGTAGGC ACCCATATAA GCATTATATT TAGGGTTTGA 2880  
 ACCACTAGAT AAGTAATAAAA CTTCATGCTC ATTGTAGATA AATAAAGCAG AAGCTAAGTT 2940  
 TAAGACTGCA CCATCTTGTT CAATTGTGTC TATTGTATTG TCGATTTTAC GCTTATTGCT 3000  
 10 ATTTAGCTGT TGTCTAGCT GTGTGCGTTT CGTTTTATTT TTCTTTGAAT TAGGACTTTC 3060  
 TTCCAATGCT TCTTCAACAC CTGAGAGTTC AGCTGTTAAT TGTGTGTGCT TTAATTGTAA 3120  
 15 CGTTTTTAAA TACTCGTTTA AATCAATATA CGCCAACTTT AACATGGCGT GGTCATCGTA 3180  
 TAACTTTTGC ATTTCTTCAA AGTATGGTAA CTCACGGAAT TTGAAACCGT GCTTTTCCTC 3240  
 AGCCATATGG AATAAGTCGA AAAAAGTTTG CGTTTCATCA ATCGTTAAcG TTTTaGTTTT 3300  
 20 GACACCAaTa TCaTATGTtT tTtTAATATT ACGTCTCGtT TGATAATCCA TTTCTTTTAA 3360  
 AAGTTGGTCT TCAGTCTTAT CTTTTAAATC TAACACTGAC AGCCAACGGA TTTGGCTCAT 3420  
 TGAATCATAA CCTACAGGGA AACCTTGGTG TTTATAACCT AATTTATCCA TTGTTCTaAC 3480  
 25 AAATGCTCGG TTATCATAAG ATTTAACAAT TTCACCGTCT GCATTGCGTA AATTTTCAAT 3540  
 TAAATATGGA TCTACAAGGA CATATAAACA ATTGTGTTTC TTTAAATATG ACGTTAATGC 3600  
 TTTAAAGAAA AATGCTACTA ATGATTGATT TGTATAATCC ATCACTGGCC CGCGATGTGT 3660  
 30 ATAAAAATAT TTGAAAAATT TAAGTGTGCG TGCTTCTGTC AATAAGCATC CTGCAATCAC 3720  
 TTGACCATTG TCATCTTTAA CCCCTACrAG ATGCACATCG CCTTTTAAAT CAACTCTATG 3780  
 35 ATTGTAATGA ATAGCTGATT GTGTGTAATG TGAAAAATGC T 3821

## (2) INFORMATION FOR SEQ ID NO: 305:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1422 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 305:

GCGACACCAT TGTTCGAGC AACTGTTAAT TTACCAGTTG ATGGTTTCGA CGGTGTTGTT 60  
 50 GGTTTTGATG GTGTAGTAGG GGTAGTTGTA GATTGCGTAC CCCATGGCGC CACTTTACCC 120  
 ATTTTTATTA AATATTTTTT ATTAAATTAAG TCATATAATT GATCATAACT ATAATTATGA 180

TATTGTAATT GTGTAGCTGC ATAGTCAGCA TAGTTATTCA TTGAACGTGC AAATGAAGCA 360  
 TAGTCGTGTG TGTGTACGAT TTCAACATTG ATGAATCTAG GGTTACCGAC TGCACCGACA 420  
 5 CCCCAGATA AGTAATCCGT TGGTGTCTGT TCGATTATAC GATCCCCATC AACAAATGCA 480  
 TGTACGAATG CGTTTTGATA GTTATTTTTC ATATAACTAA TTTCAACATT TATCGTCGAA 540  
 CGATCATTAG CTGTATCATG AACTACGATA CCTTCAGGAC GACCTACGCC GTTACGGTAT 600  
 10 GCGTATTTAG GGAAGTAAGA TGTATAATCT TCTTCAATTT TAGGTGCTTT TAAGTTATTT 660  
 TTACAAATGT AATCGTTAAT TGAAGAGTTT ACTTGTGGTT TATATTTTGG CAAACTCGTT 720  
 TTTGGTGTG CAGCAACTGA TCTTGGTTGT GCTGAAGCGC TAAAAGTAGT TACTTTAGGT 780  
 15 GTCGCTTCAG TTTTAGCTTT AGGTGCTGAT GTAGTTGCAG CTTTAGGTGC TCGGGTTTTA 840  
 TATTGCGTyT CAAGAGCTGC AGGTTTAGCA GCTGATTTAA TTAATTCTGG ATTAATTTGA 900  
 20 TTTTCTGAAT TATCATCTTC ATCATCAACT AAACATAAC CAGCATTGTG AACATTAGTG 960  
 TTAGTTTTAG GTGCTGTAGT GCTTGTGAC TTTGCAACAG GCTGCGTATT ATTTGTAGTC 1020  
 GCTGATTGAT TAGCACGAGT GTCACCATTT ACTTGTGCAG TATCAACTTT TTGACTTACT 1080  
 25 TGAGCATTGC CTGTTTTGTT ATTTGCTGTT TTTGGTTGGA CAATAGCAGG GTCTTGATAT 1140  
 ACTTGAGTGC CAGAAATGTT TTGCGTTGGA TTTTTTACCT CAGCTTTTGC TTGTTCACTA 1200  
 GTTGCTTTAA CTTTATTACT ATCTAAAACG TTTTATTAG TAGTTTGATC TTGTGTCGTC 1260  
 30 TCAGCTGCTT GAACTTGATG TGCAGTGA CTGGAACCTA CAAGCGTTAA TGCAACCATT 1320  
 GAgGTAGTTT GTAATTGAAT TTTTTCGCCA TTCTATTTAT TACTCCyAAC ATTTATTAAT 1380  
 35 TATtACTAAC ATTATAGTAC CTGtTTATA TACCTGTGCG TA 1422

(2) INFORMATION FOR SEQ ID NO: 306:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6076 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 306:

ACGCGTTGGT TATTTCAATC ATAATATTAC TCTGCAAATA CACAGCCCTG TAACCGAGTA 60  
 AATGGATAGA GATTTGAACA AATGAAAACA ATCAACTAAT GGAAAGGATA AAATATTATG 120  
 50 CACAACAATA ATGAATTCAA CAAAAACTG AAAGATTTTA TAGGTAGCGA TAAACGGATG 180  
 GCTTTAGTAA AGGGTTATGT TAACGAGTAT AAATTAACAA CTGTTTTAAG AGCTTTAAAT 240



|    |  |      |
|----|--|------|
|    | TAAATGAACC TTCTTCATAA ACTGAATTTG GACCACCTGA TAAGATAATA CCTTTTGGAT  | 2160 |
|    | TCATTTTCTT AATTTCTTCA ATTGAAATTT CATGATCGTG TAATTCACCTA TAAACGCCCA | 2220 |
| 5  | TTTCACGAAT TCGGCGTGTA ATTAATTGGT TGTATTGGCT ACCAAAGTCT AAGACAAGGA  | 2280 |
|    | TTAACTCTTG TTCTTTTGCC ATTTCCATAT TTGTCGTTCT CCTTTATCTT AATTAGAATG  | 2340 |
| 10 | AGTAGTTCGG TGATTCCTTC GTAATTTGAA TATTATGTGG ATGGCTTTCT GCTAAACCAG  | 2400 |
|    | CAGGACCCAT ACGTGTAAT TGTGCTTCTT CGCGTAATTC TCTTAAATCG TGTGAACCAG   | 2460 |
|    | TATAACCCAT ACCAGCACGC ACACGCCCA TTAATTGGTA AATTGTATCT TGTAACGCAC   | 2520 |
| 15 | CTTTATAAGC CGTACGTCCT TCGATACCTT CAGGAACAAA TTTCTTAGGC GCTTTGTCCT  | 2580 |
|    | CTTGGAAGTA ACGGTCGTTT GAACCTTTTT CCATCGCACC TAAAGAGCCC ATACCACGGT  | 2640 |
|    | ATACTTTATA TTGTCTACCT TGGAAAATTT CTGTTGCGCC TGGGCTTTCT TCAGTACCTG  | 2700 |
| 20 | CTAATAAGCT ACCTAACATA ACCGCATGTC CACCAGCAGC TAATGCTTTA ATGATATCTC  | 2760 |
|    | CTGAGAATTT AATACCACCA TCAGCAATGA TAGCTTTACC ATGTTTGCGT GCTTCAGTtG  | 2820 |
|    | CACAATCATA AATTGCTGTA ATTTGTGGTA CACCAACACC TGCTACAACA CGCGTCGTAC  | 2880 |
| 25 | AAATTGAACC TGGGCCAATA CCAACTTTAA CAATATCTGC ACCCGCTTCA AATAAATCTT  | 2940 |
|    | TTGTTGCTTC TGCAGTTGCT ACGTTACCTG CTAATAATGT GATTTCTGGG TAAGTCTTCT  | 3000 |
|    | TAATATGTTT CACTTGATCG ATAACACCTT TAGAGTGACC ATGTGCTGTA TCGATAACTA  | 3060 |
| 30 | AGACATCCAC ACCTGCTTCG ACTAATTTTT GAGCACGAAT ATCAGTATCT TTTGAAATAC  | 3120 |
|    | CAATTGCTGC GGCTACAAGT AGACGACCAT GTTCATCTTT TGCTGCATTA GGGGAATTGGA | 3180 |
| 35 | TAACTTTTTT AATATCTTTA ATAGTAATAA GACCTTCTAG ACGTCCGTCT TTAATAATG   | 3240 |
|    | GTAACTTTTT AATCTTATGT TTTTGGAGAA TTTTCTGCTG TTCTTCAAGT GTTGTATTCA  | 3300 |
|    | CTGGAGCTGT AATTAAATTt TCTTGCCTCA TTACATCTAC AATTTTAATC GAGAAGTCTT  | 3360 |
| 40 | CAATAAAACG TAAGTCACGG TTTGTTAAAA TACCTACTAA GTTGCGATCT TCTTTATTAT  | 3420 |
|    | CAACAATTGG TACACCTGAA ATACGGTATT TACCCATTAA TGCTTCTGCT TCATAAACGC  | 3480 |
|    | TTTCTTCTGG CGTTAAGAAA AATGGGTTTG AAATGACACC ATTTTCTGAG CGTTTTACTT  | 3540 |
| 45 | TTTGAACTTC GTCCGCTTGT TCTTCAACGC CCATATTTTT ATGAATAACA CCTAAACCAC  | 3600 |
|    | CTTGACGAGC CATAGCAATC GCCATTTTAG ATTCAAGTAC AGTATCCATA CCAGCAGAAA  | 3660 |
| 50 | TAACTGGAAT ATTTAATTTA ACTTTGTCTG ATAATTGTAC GCTTAAATCA ACGTCTTTTCG | 3720 |
|    | GTAAAATATC AGATTGTGCT GGAATTAATA ACACATCATC AAACGTTAAT GATTCTTTTG  | 3780 |
| 55 | CAAATTTACT TTCCACATT AAAACAGCC TCCATTTTTT AAATTAATTA GTTATATTAT    | 3840 |

|    |             |            |            |            |            |            |      |
|----|-------------|------------|------------|------------|------------|------------|------|
|    | GCAGAGATTG  | CGCCTAAAAC | AATTCCGTTT | TGAGTCAACC | ATGCAAATTG | TTCACCTAAA | 3960 |
|    | CCTTTAAATG  | CTTGTGGTAC | AGCGCTTATA | CCAGTACCTA | AtCCTACTGA | TACAGCGATA | 4020 |
| 5  | ATTAATAAAT  | TGTTTTGATT | TTTAAAATCG | ATATGTCCTA | ATATACTAAC | ACCATATGCC | 4080 |
|    | ATTACCATGC  | CAAACATAGC | TATCATCGCA | CCGCCTAACA | CAGGTAGCGG | TATGATATTT | 4140 |
| 10 | GCTAATGCGC  | CAAGCTTAGG | TATACAACCA | CATATAAGTA | ATAACACGAC | CATGCCGTAT | 4200 |
|    | ATAACATTGT  | TTTTCTTAGC | GCCGGATAAA | GAAACAAGTC | CTACATTTTG | CGAATAGGCT | 4260 |
|    | GTATACGGAA  | ATGAATTGAA | TATAGAACCT | AaCACTATCG | CTAGACCTTC | CGCAGTATAA | 4320 |
| 15 | CCTTTACGAA  | AATCTTTTCT | TTCTAACTTC | TTACCGGTAA | TTTCACTTAA | CGCATGATAG | 4380 |
|    | ACACCTGTGC  | ACTCAATTAA | ACTAACGATA | GCTACAATAA | AGAACACTAA | CGTCGATGTC | 4440 |
|    | ACATCAAAGC  | TAAATCCAGA | GAATCTAAAC | GGCACTGGGA | TGCCTAACCA | ACCGGCATGA | 4500 |
| 20 | TTGACTTGAT  | TAATATCGAC | CATCCCAAGT | AAGCCAGCAC | CTATCGTTCC | TAAAACGAGT | 4560 |
|    | CCAATTAATA  | TGGCAATACT | CTTAATAAAT | CCAGTTGTGA | ATCTTTGTAA | AAGAAGAATA | 4620 |
|    | ATGATTAATG  | TCATTAAACC | TAACAAAATG | TTCTTAACAT | CTCCATAGTC | CTTTGCACCT | 4680 |
| 25 | TGACCTCCAG  | CTAAGTAATT | CATTGCTACT | GGCATTAAAT | TGATACCAAT | GATAGTAACA | 4740 |
|    | AACTACCCG   | TTACTACTGG | TGGGAAGAAT | TTTACAAGAT | GTGAAAAGAA | AGGCGCGATG | 4800 |
| 30 | ATAATAACTA  | ATATCCCTGA | TAAAAATAGC | GAACCATAAA | GTACATCTAT | TCCTTTCGTT | 4860 |
|    | TGACCAATTA  | AAATCATGGG | CGCAACAGCC | GTGAATGTAC | ATCCAAGAAC | GATTGGTAAT | 4920 |
|    | CCTGTTCCCTG | TTACTTTATT | GGCTTGTAAG | AATGTGGCAA | CCCCACACAT | AAATATATCT | 4980 |
| 35 | ACTGTAACTA  | AGTAAGCGAT | TTGTTCAAGT | GTAAACTTCA | AACTTGTACC | AACAATGATT | 5040 |
|    | GGAACCTAAG  | TAGCACCTGC | GTACATAGCT | AAAAGATGTT | GAACACTTAG | GATTAAATTT | 5100 |
|    | TTCAATTATTC | TTCTCCCACC | AATGTCACCT | TGTTTCCTTC | TAGTGAAGCA | ACCTTGCAGA | 5160 |
| 40 | GAGAAGAAAC  | TGTTAAACCT | GCTTCTTCTA | AACGTTGATG | CCCATTTTGG | AAACTCTTTT | 5220 |
|    | CAACAACAAT  | ACCAATACCA | GCTGTCTTAG | CATTCGCTTG | CTGTGCGATA | TCGTATAATC | 5280 |
|    | CTAATGAAGC  | ATCACCATTT | GCTAAAAAGT | CATCGATGAT | AAGTACAGTA | TCTTCTTCTG | 5340 |
| 45 | ATAAAAACTC  | TTTTGAAACA | ATGACCGTAC | TTGTTTTATT | TTTAGTAAAT | GAATGAATAG | 5400 |
|    | ATGTTTCATA  | ATAACCATCC | GTCAAAGTGC | TAGGTTTTGC | TTTTTTCGCA | AATAAACATG | 5460 |
| 50 | GCACATCAAA  | ATGCAGTGCA | GCCATGATTG | CAGGTGCGAT | ACCGGAAGCT | TCAATGGTTA | 5520 |
|    | AGATTTTAGT  | AATCCCTTTA | TCTTTAAATT | GCTCGTAAAA | AGTGCGACCA | ACTTCATTCA | 5580 |
|    |             |            |            |            |            |            | 5640 |

ATTTGTGTGA AACATTTTGC TCTTAAATTG GTGCTAGATA CAAAAAATC CCCAAACTAA 5760  
 ATAATAGTTT CAGGGTTTAT GAGTGAACGa ACATGCATAA CGAATTTGTC ATGCAATCAA 5820  
 5 TGTAAGAGAA GTTTCATCAA ATAACTGTG ACCATCATAT AAAATGATAT AAATCACCCA 5880  
 CCATGGTTAC AATTTAATGG CTGAAGCTAC TCCTAGTATT GTGTTGTTAC TCATAGTCAT 5940  
 10 GTCGTTCAAG GCAACATGGT AGAACTTCT AAAGCCATAT TCTTTAGATT ATATGAGTTT 6000  
 ATGTAAATTA TTTAACGATA ATAGCAAATT TTCGGCATT TTTCAATAAC TGCTTAGGTA 6060  
 ATCTTTTAAT AGTTTT 6076

(2) INFORMATION FOR SEQ ID NO: 307:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6136 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 307:

25 ACCGCCGATT GATAGCTTTA CTGCTGCGAT AAACTGCCT TCAACAATTG GTGCATCAAC 60  
 TTTTAACACA CGATGATTAC CATCATACAT TTCAATTGCC ATATCTACAT TCATTTCTGA 120  
 30 AGATCCAATA TCGTAAAAAC ACAATGCATC ATCCTCTAAT TTAGTCAAAA CTTCTTGGAT 180  
 GATATCAAAT GAAGTTCCAA TTGAACCATC TGGTAATCCC CCGATTGGTA TAATATCAAC 240  
 GTCACCTGCC ATTTGCTTTA ACAAAGATTT TGTACCACTT GcAATTTCTT TACTGTGGCT 300  
 35 AACAAGTATA ATTTTAGGCA TTATCTTCAT CTCCAATCAA AGCGTTTAAA ATATAAACCA 360  
 TACTTTGAGC ACCTGGATCA ATATAACCTT TTGATTCTTC TCCAAAATAT GCAGCTCTAC 420  
 CTTTTCGTTGC TACCATATCT TTTGTATTAT CTGCTAATTG CTGTAAATCA TTGAATGTTA 480  
 40 AAGTTTCACC ATTTTTAAGC TTCTCTGCTG CTCGCGCTAC TACATCATAC ATTGTCTTTT 540  
 CATTTAAAGT AACTTTACCA CGTGATTCAA CCGCTTCGGC AAATGCCTGA ATTAGTGTA 600  
 TGAAATCTTG ATTATCCATA TCATCTTTGG TGAATGCAGA CATTTTAACA AAGCTAAAGC 660  
 45 CATACAGTGG TCCTGATGCA CCCCCAACAT TTGACATCAA TGCCATACCA GTTGATTGTA 720  
 ACAATGATTG CATTGAGCTA TCATCAAGTT TGTCTTTAAG ACTACTAAAC CCACGAACCA 780  
 TGTTAACCCC GTGGTCACCA TCACCAATTG CTCGATCTAA TTCAGTTAAT TCAGATTCAT 840  
 50 GTTTTTTAAA CGTTTCTTCT AAATTTAATA AACGTGCTTT CATATCATTC ACTTTCAATT 900  
 GTGCCACCTC ATAAATGTAT ATTTATTCAT ATTCACTTCT TATTTAAAGT ATTGACTTGT 960

|    |  |      |
|----|--|------|
|    | ACCTTGCATG TCTAAAGATG TCATATAATC ACCAACAAAC CATTTAGCAA CATTAAACCGT | 1080 |
|    | TCTTGCAGCT AAATTTTGTG GAATATATTT AGTTACGATA TTTAATTCAG ATAACGGCGT  | 1140 |
| 5  | ACCACCCATA CCATTTACCA TTAATATGAC ATCATTGGCA GTAACCTCTT TATACAATTC  | 1200 |
|    | GTCTAACAAAT GTTCCAACAA TATGATCAAT ATCCTTTACT TCTTCCCTAT GAATACCTTT | 1260 |
| 10 | TTCACCATGT ATACCAATAC CGATTTCAT TTTGTGCTCT TCAATATCAA AGCCATATTT   | 1320 |
|    | TCCAGTAGTT GGAACAAGCG GTGGCTCAAT TGCCATACCA ATACTTTTAA TTTCAGGTAA  | 1380 |
|    | CAACGCTTCT ACACGCGATT TTATCTCTGT TAATGAATAA CCTTTTTTCAG CAAGATAACC | 1440 |
| 15 | GGCAAGCTTA TGAACAAACA CTGTTCTGTC AACACCACGA CGTTGTACTT CGTTTGTGAC  | 1500 |
|    | AGCAATGTCTG TCACGAACAA TAACAGTTTG AACATTTATA CCTTCCATTT CTGCAAGCTC | 1560 |
|    | TTGTGCCATT TCGAAATTCA TCACGTCACC TGCATAGTTT TTTACAACCTA GTAATACACC | 1620 |
| 20 | ATCACCAGTA TCTACTGCTT TAATAGCTTC TAATATTTTA TCAGGTGTAG GTGATGTAAA  | 1680 |
|    | TACTTCGCCA CAAACCGCTG CATCTAGCAT ACCTTCTGCA ACAAACCGG CATGCGCAGG   | 1740 |
|    | TTCATGTCCG CTTCCACCTC CAGAGACTAT TGCTACACCA TGTTCTTTCT TAGCTTTTTT  | 1800 |
| 25 | TACAATAACT GTATTAGCAA TCAGATCTAA CTCTGGGTGC GCAATTAACA ATCCTTCAAG  | 1860 |
|    | CATATCAGTT AAAAATGTTT CTTTTTTATT GATTAACTTT TTCATCATGT TGTACCTCCT  | 1920 |
|    | TGGTATTATC AGTCATAGTA TAAACAGAA TAAATGAATG CGCTATCATA AAGAATTAAC   | 1980 |
| 30 | CTGATACCGT TATCAAATAT ATTTTGTGATA AGATCCTCTT GATAACTTAA TGGTTCATTA | 2040 |
|    | TTGAAAAAAT AAATAGTCTT GAGTGGCTCA TTAAATAAAA AATGCTATGA AAAGCCTTAT  | 2100 |
| 35 | AATAAAGTGC CTTTCATAGC aATAAGTTGT GTCCATTGAC ACTATACATT TTTGTTTTTG  | 2160 |
|    | TACATTAAAT ATAAGAAATA CGGTGCACCA ATAATTGCTA CGACAATACC TGCTGGAACC  | 2220 |
|    | CCACCTGGTT GTAATACAAT TTTGCCAATT GTATCAGCTA TAACAAGTAA ACATGCCCCT  | 2280 |
| 40 | ACTAAAATGG CAATTGGTAA AAACAACCTGG TGACGTGGTC CAACGATACG TTTGGCAATA | 2340 |
|    | TGCGGACCCA TTAATCCGAT AAACGAAATT GAACCTGCTA CTGCTACAGC AGCAGATGAT  | 2400 |
|    | AACATCACTG CGATAAAGAA TAATATTAAA CGTTCTCTGC TTAACCTTAC ACCTAGACCT  | 2460 |
| 45 | CGTGCAATAT TATCACCCGT ATGAATAATA TTTAGTGTAT TCGATTTAAA TAGTAAGTAA  | 2520 |
|    | GGAATAATAA TCAACACCCA CGGTAAAAAT GCAATGACAA ATGGCCATTC GTCACCCCAA  | 2580 |
| 50 | ATATTACCTG CAAACCAAGC AGCGATGAAA TCAGATTGCT TATCATCAAA TTTTGACATA  | 2640 |
|    | ATTGTAATTG AGCCACCATA TAATGCTGTT TGTAACCTA CACCTATTAA TACCATACTC   | 2700 |
|    | CTGGAATAAA AAATAATCaA TGCAGTGqTG                                   | 2760 |

|    |   |      |
|----|---|------|
|    | CCAATTGCAA TAAATAATGC GATTGCAAAT CCGCCACtGC GTTAATACCT AATATACCTG | 2880 |
|    | GTTCAGCTAT TGGATTTTTT GTGACACTTT GCACTATTGC ACCACTAATA CTAAGCtGCG | 2940 |
| 5  | CCAGCCAAAA TAGTAATCAT CATCCGAGGT AACCTGAAAT CTAATAAGAT TAACTCATCA | 3000 |
|    | ATGGCATCAC CTTGTCCAAT TAAAGTTTTG AAAAACTTTT CAACAGGTAT GTTGTATTCA | 3060 |
| 10 | CCTGAGGTAA TACTCCAAGT ACAACCTAGA AATAGTAGAA TGCTAAAAAC AGCCAGTGCT | 3120 |
|    | ATCAATTGTC TGCCTTTATT ATTGAACTA ATCATATTGA GCGTCCTCCT TTTTTAACTA  | 3180 |
|    | AATATAAAAA GTAAGGAACA CCGATAAATG AAATGATTGC ACCAACAGGC GCTTCTCCTA | 3240 |
| 15 | AATATCGTGC TATCACATCG GCAACAAGCA CGAGTATCCC ACCTAACAAG GCTGTTAATG | 3300 |
|    | GTAGAATTTT AGCATAATCA GTTCCAATTA AAAATCTTGC TATATGAGGT ACCATCAAAC | 3360 |
|    | CTACAAATGC AACTTGTCCA GCGATAGCAA CTGCAATACC TGCTAGAATC ATAGCAATAA | 3420 |
| 20 | TTAAACATAT GCCTCTGATC ATTGTTACAT TTTGACCTAA ACCTTTAGCT AATGATTAC  | 3480 |
|    | CAAGATTTAA AATGGTAAGT TGTTTACTAA TTGTTAATAT AATGAATAAC GCAATACCAA | 3540 |
|    | TTAATGGAAT TGCCCACTTA AGGTGTGACC ATGTTGTGCC TGAAACGCCT CCAGCAGTCC | 3600 |
| 25 | AAAATGTTAC TGTTTGATTT AGTCTAAAAG CTAATGCAAT ACCTTGACTT AGCGCTGTTA | 3660 |
|    | ACATAGCACT TACTGCTGCA CCCGCTAAAA TAATACGCAT CGGATTAAAT CCATCACGTC | 3720 |
| 30 | TAGATCGGCC TATCATTAAT ACAATAGCAC CTCCTAGAAT AGCACCTAAA AATCCAGCAA | 3780 |
|    | ACATCAATAT TAAAAATGAA GTGTTTGGTA AAACTGCATA TGTTAATGCT AAAGCAAATG | 3840 |
|    | AAGCACCTGA ATTTAAACCT ATGAGCGCCG GATCAGCAAG ACCATTACGA GTAACACCTT | 3900 |
| 35 | GTATAATCGC ACCAGAAACT GCAAGCGCCA TACCTACAAT TACTGCTGCT ATATTTCTGG | 3960 |
|    | GAATCCTAAT CTCATTGATG ATGTTTTGCT GTTGATTGCT AGGATTATAA TTAAAAATAG | 4020 |
|    | CCTCTATAAT TGTAGAGGCT TGAATTTTGG CGTCACCTAT TAATGTAGAA ATAAATAGTG | 4080 |
| 40 | TGATTAGTAG TATCATACTT AAACCTATAA TATAGGATAA AAACCTCAAT GGCGTTGGGT | 4140 |
|    | TCTCTCTATT TGTCTGTGTA ATTGTCCCTT TTATCATATT AACTTACTTA ATTAAGAATA | 4200 |
|    | AGCTCTGCGA CATAAGTCAT AAGTTACCAG TAAAGGTTTT CCAGTTTTAG GATCTTTACT | 4260 |
| 45 | TAAAACAACA TCAATATTAA AACTTTTTTC TAATATTTCC TGTGTTAATA CGTCTTCTGT | 4320 |
|    | TGAACCTGTA GCGATGATAT CCCCTTCTTT CATCGCAATA AGATGATCTG AGAAACGAAT | 4380 |
| 50 | CGCTTGTTG ATATCATGAA GAACCATGAC AATTGTACAA CCTTGTTCCCT GATTTAGCTT | 4440 |
|    | CTGAACTAAT TCTAGTATTT CTAATTGATG ACAGATATCT AAATATGTTG TTGGTTCGTC | 4500 |
| 55 | TAAAAAGATA ATATCAGTTC TTTGTGCTAA TGCCATTGCA ATCCAAACAC GTTGTCTTTG | 4560 |

|    |  |      |
|----|--|------|
|    | TGCCCCAATCA ATtTCTTTCT TAtCCTCAGC AgTTAATCTA CCAAATCCTT TTTGATGTGG | 4680 |
|    | AAAACGACCA TATGAAACTA ATTCCCCAAC AGTTAAGCCA TCTGCTACTT CaGGTGaTTG  | 4740 |
| 5  | aGGTAAaTG GctATTTTTt TGcAATCyCy TCGTAGAtT GTGtATGAAT ATTTTCACcA    | 4800 |
|    | TCTAAAAATA CTTCGCCTTC TTTAACTGCC AATAAACGTG ACAATGCCTT TAGCAAAGTA  | 4860 |
| 10 | GATTTCCCGC AGCCGTTAGG ACCAATGATT GACGTCACTT TGCCATCTGG TATTTCAACA  | 4920 |
|    | TCTAATTTAT TTATAATCGT GTTATCCCCG TAACCAATTT TAACTTGTTG TCCATGCAAA  | 4980 |
|    | CGATTCATAA TTTCCCTACT TTCAATAAAA TTCTTTCTGT TTATAAAAAA TAATTTCTAT  | 5040 |
| 15 | TTTTAAATTA TCAATTTTCA AAGACATCCC AATTGATAAT GATTATCATG AACATCATTa  | 5100 |
|    | TAACATTTTT CAATCTTATT GACTAACATT ACTTTTTAAA TTGGATAGCT CGATTTGTCA  | 5160 |
|    | TGTCTTGAT ATTACTTTTA TAAAATAAAA AACGCCCACA GATAAGTCTT CATAGTTCAA   | 5220 |
| 20 | AAACTTGTCC GTGGACTTCT ATTTAAGTAT GTGTGCTCAT ACCATTTATT TATTCATCTG  | 5280 |
|    | CAAGAAAGCC ATTACCATAG ACATCTCTTA CATCATGAAT TACGAGGAAT GCATCTTTAT  | 5340 |
|    | CGATTTGTTT AATTAATCGC TTTGCTTTTG AAACCTTGTT TTTAGAAATA ACAACGTATA  | 5400 |
| 25 | AGACATCTTT TTCTTCACGC GTATAATAGC CATGTCCGTT TAAAATGGTT AAACCTCTTC  | 5460 |
|    | CAATTTGCTC GTCTATTGCT TTGGCAAGTT TGTCGGGATT AGTTGAAATA ATCGTCATAG  | 5520 |
|    | CTTTTTTAGT GTTTAAACCT TCTATGACAT ATTCCATCAC TTTTGTTCTT ATATAAAGTG  | 5580 |
| 30 | ATATTACTGT TACTAATACT TTATCAAGTG GAATAACTGT AAGTGAAATT GCAACAACGA  | 5640 |
|    | TCATATCGAA GAAAAGCAAA GCATATGGCG TGCTTACATC GAGGTATTTT GTTGCAATTC  | 5700 |
| 35 | TCGCCAAAAT TGTTGTACCT GCTGTTGTAC CGCCTGCAAG GATAATTACT CCGATTCTTA  | 5760 |
|    | GTCCAACGCT TACACCACCA AAAATGGCAT TCACAATGCT GTTTCCAGTT TCTACTTGCC  | 5820 |
|    | ATGATTCTGT TAAACTCAA AATATTGAAA TAAGAATTGT TACAAGAATA GTTAAGTACA   | 5880 |
| 40 | TACTTCTCTT ACTCAAAAAt TTATAAcCTA TGGCAATCAA TACTGCGTTG ACCAAGAAGT  | 5940 |
|    | TAGTGATGGC TGGTGAAATA TGAAACGCAT AATATAAAAT AATTGCTAAA CCTGTAACCC  | 6000 |
|    | CGCCTTCACC TAAGTTACCA GAAATaATAA ATGCATTTAC ACCTGCAGCA AAGATAAATG  | 6060 |
| 45 | AACCTAAGAC AACTAGTATT AAATCTTTAA CCGTTTTATT CACGAAACCA TCCCCTTTAT  | 6120 |
|    | ATATTTATTA GACTAT  | 6136 |

(2) INFORMATION FOR SEQ ID NO: 308:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2576 base pairs

TYPE: nucleic acid

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 308:

|    |            |            |            |              |             |             |      |
|----|------------|------------|------------|--------------|-------------|-------------|------|
| 5  | GATATCGTAs | CTACTGAAAA | GTCATCACCA | CCATGGAATG   | ATTTCTTTAA  | ACGTTTTTAGC | 60   |
|    | TTCTATGCAA | TTGCAATTCA | ATACTTTGTT | GTACAATTTA   | TCATTACATT  | ATTCTTAATT  | 120  |
| 10 | TGGTTACCGA | CGTATTTAAC | AGAAGTATTC | CACGTTAACT   | TTAAAGAAAT  | GAGCATTAGT  | 180  |
|    | TCATTACCTT | GGTTATTAAT | GTTCTTCTTA | ATCTTATCAG   | CAGGTGCAAT  | TTCTGACCGT  | 240  |
|    | GTATTAGGAT | TAGGTCGTTT | AAAATTTCGT | GCTAGAGGTG   | TAATTGCAAT  | TGCAGGATTT  | 300  |
| 15 | ATTGTGTTTG | CAGTTTCAAT | TATCTTTGCT | GTACGCACAG   | GAAATTTATA  | TGTAAGTATT  | 360  |
|    | TTCTGGTTAT | CACTAGGTCT | TGGTGGTATC | GGTATTTCAA   | TGGGTATGAG  | TTGGGCTGCA  | 420  |
|    | GCAACTGACT | TAGGACGTAA | CTTCTCTGGT | ACAGTATCAG   | GGTGGATGAA  | CTTATGGGGT  | 480  |
| 20 | AATATAGGTG | CATTAATCAG | TCCGCTATTA | GCAGGTCTAT   | TCGTAGAACA  | TTTGGGTTGG  | 540  |
|    | ACAATGACAT | TCCAATTGTT | AATCGTTCCA | GCAGTAATCG   | CTGTGATTAT  | GTGGTTCTAT  | 600  |
|    | GTGAAACCAG | ATCAACCTTT | AATTGTTAGT | GATGATAAAG   | CAATAGAAAA  | ATAATTTAAA  | 660  |
| 25 | CAAGCAGTAA | GCTTTCACAT | AGTTGGGGCT | TATTGCTTTT   | TTTGC GTTGA | AATTGAAACT  | 720  |
|    | TTTTAAACAA | GATATGGTTT | AAGATGAAAA | TGAAGTTATT   | GAAATGATAT  | ATGTAAAGAA  | 780  |
| 30 | ATAAGGTTTT | AAAACATTAG | TCAGGTAACG | CTTGTA AAAAG | TACATATAAA  | TTTTAACTAG  | 840  |
|    | CGCAAAGGTG | GGCGACCAAA | GtTcaACGAT | GTAAATAAC    | aTTAGrAATT  | AATTTTAATT  | 900  |
|    | GGACTTTTAA | AGTTTTTTAA | TTTAGATAAT | TGAGCATAAG   | GTGTTATAAT  | GACATATGTT  | 960  |
| 35 | GCGTAATTAA | AATTTATAGC | AACAAATTCA | TTTTAACTAT   | GCTAATAAAA  | AGATTATGGA  | 1020 |
|    | AATATTTTGA | CAAGGAAAGG | AGAAGTCGAA | ATGACATCTT   | TTTGACATCA  | CTCATAAAAA  | 1080 |
|    | TCAATCGACT | TAACTTAGAC | TTTTATAAAG | GTGTAAGACA   | GGGACTGTTA  | ATGATTATTC  | 1140 |
| 40 | CTGCAATAAT | CGGTTACTTA | TGTGGTAATT | TCCAATTGGG   | ATTATTAGTT  | GCAACCGGAA  | 1200 |
|    | CACTAGCCCA | TATTTATGTT | TTTAAAGGTC | CGTCGCGATC   | TAAGCTGCGA  | ACTGTAATAA  | 1260 |
|    | TTTGTAATTT | AGCGTTTGCA | ATATGTATGA | TGCTTGGTAC   | GCTAACAGCC  | AAAACGCCAC  | 1320 |
| 45 | TCGTTTTTGG | AATGACATTA | TTAATTGTTA | CGGTTATACC   | ATTTTATATA  | TTTACTGCCT  | 1380 |
|    | TAAAAATAGC | TGGACCGTCA | TCGACATTCT | TCATTGTGAC   | ATTCAGTCTA  | CCCATTAACT  | 1440 |
|    | TACCTATAGC | TCCCGAAGAA | GCATTATATA | GAGGCTTTGC   | GATTTTAGTA  | GGCGGTATAC  | 1500 |
| 50 | TTGCCACTAT | GATGGTGTTA | ATCACGATCG | TATTTTCTAA   | AAACAAAGCT  | GAAGAACAAG  | 1560 |
|    | CAATTCAAAA | TGATTTTAAA | CTCATATCTA | AGTTGTTACA   | CAC TTATAAT | GATAAATCTG  | 1620 |

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|    |             |            |            |            |             |            |      |
|----|-------------|------------|------------|------------|-------------|------------|------|
|    | TCACCTTCTAC | TTCAAGTAAC | GATAAATTAA | GTAGACGTTT | CCAAAAATTA  | TTATTATTAC | 1740 |
|    | ACACATCTGC  | CCAAGGGATT | TATTCTGAAC | TGTTAGAGTT | GAACGCTAAA  | CAAATTCGAC | 1800 |
| 5  | CATTGCCAGA  | TGAGTTAATT | GAAATGATGG | ATCATATCAT | TGCACAACCTA | GATAATAGTG | 1860 |
|    | AGGAAAATGT  | AAGATATTGG | CGAAAAGAAG | TGACAGTAAC | AGAGGAATTT  | CAAAATTTAT | 1920 |
|    | TCAACCATAT  | ATTGAAAATT | GATGAAATGG | TGCATGCAAA | TGAAGCGCGT  | ATTGCGTATG | 1980 |
| 10 | AAGCAGACAT  | GCGAAAACCT | TTATATAGTA | AACGCATTTA | TCaAAAATTTA | ACaTTAGACT | 2040 |
|    | CtATKGTTTT  | TAGAAATACA | TTGAGATATA | CAGCGATTAT | GATGATAGCG  | ATATTTATTG | 2100 |
|    | CGTTAATGTT  | TGATTTTGAA | AAAGCATACT | GGATACCGTT | ATCTGCACAT  | ACAATATTAC | 2160 |
| 15 | TAGGAACATC  | AACTATACAT | GCAATCGAGA | GAGGTATGGC | ACGAGGTTTA  | GGTACTATTT | 2220 |
|    | TAGGTGTGTT  | AGTACTTTCA | GTCATATTGT | TGTTTTCAAT | ACCAACACCT  | GTTGCAGTAA | 2280 |
| 20 | TTTTAATGGG  | CATTGCAGCA | TTGTTTACTG | AAGCATTGGT | GGGAGCAAAT  | TATGCGATTG | 2340 |
|    | CAGTAGTTTT  | TATTACAATA | CAAGTTATTT | TAATGAACGG | ATTAGCATCA  | CAGAATTTAA | 2400 |
|    | CAATTAACAT  | TGCGTTTCCA | AGAGTTATTG | ACGTTGCAAT | GGGTATTGTG  | ATTGCAATCA | 2460 |
| 25 | TAGGTTTATT  | TGTCCTTGGA | CAACGTACCG | CATCCGCATT | GCTTCCTAAT  | GTAATGGCTG | 2520 |
|    | AAGTTGTTTCG | TAAAGAAGCA | ACGCTCTTTC | ATTATTTATT | TTCTGAAAAT  | CAATAT     | 2576 |

## (2) INFORMATION FOR SEQ ID NO: 309:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 668 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 309:

|    |            |            |            |            |            |            |     |
|----|------------|------------|------------|------------|------------|------------|-----|
| 40 | CAAGCACATT | ACGATGGTCT | AATACTTTC  | TAATAATTC  | TTCTTGTCCT | GGTCGAAACG | 60  |
|    | TTTCATACCC | AAAGTAATGC | GATAATGTTT | GTTGCATCAT | AAATTGACCC | CTTATTGTTG | 120 |
|    | TTCTTTAATT | TCTTCTAACT | CACTCCATCT | TGTGATGTCT | AAATCATATT | GAATTTCAAG | 180 |
| 45 | TTGTTCTTTT | TCTTCGTTTA | ATTCTTTAAT | TTTCCATAA  | TCTGCACTTG | CCTCAATCAT | 240 |
|    | GAGCACATCA | ATTTCTTCCA | TTCTTACTTC | CGCTTGTTCT | ATGCGTTTCA | TCAATTGTTC | 300 |
|    | ATATTCTAAT | TTTTCTTTAT | ATGATAAACC | ATTTTCTTA  | CGTACAGTTG | TAGAAGATTT | 360 |
| 50 | AGATTGTTGC | TTCAATGTGG | ATTTATTTTT | ATCTAATGAT | TTTTTATAAC | TTTCATAATC | 420 |
|    | TTTCAATGCT | TTTCCATCTG | ACCATCATGA | ATAAACCAAT | ATGACTGTGC |            | 480 |

AATATAATCT TCAAGTATTG TTAAAGTCTC AGTATCTAAA TCATTTGTCTG GTTCATCTAA 600  
 CAACAGAACA TTTGGCTGGT GTACGAGTAG ACGTAATAAA TACAAACGCT TTTGCTCTCC 660  
 5 ACCAGATA 668

(2) INFORMATION FOR SEQ ID NO: 310:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12173 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 310:

CATCAGTTTA TTTTGAAAGG CAATGCGATC ATTTCATGTA TTTATGTTGT TTGAAACATC 60  
 20 GTTAGATAAC AATAGTGATA TTGCACATTT TAAGCTGAAG ATGGAAAAAT ATTCGATAAT 120  
 CAAATAAACA ATGAATTTTA GAAGGTACAA TGACGTTTAC TAATTTAAAT ATAGCTGAAT 180  
 GTGTTGGTGA GTGATGTTCA CTATAGATTT ATATTAATAT ACAAAGACAA AGGTTGTTAA 240  
 25 TTTTTATTAA GCGTTAGGTT GAATGTATGA GAATTTTAGA TTTATAATAG AAGATAGAAA 300  
 CGAAAATTTT TCTTAAAAGC AGTAATGTTG ACTCAAATA AGCTATAATA ATGACACTTA 360  
 TTTAATTGAT TAACATTTGC TAATAATAT CAATATAGAA TATAACTTTC CAATAATGAC 420  
 30 TGAGAAAATC GAAATGTCAG TCTCGAATCA TATAATTAGA AAATTGATTA TTTTCTGTCA 480  
 ATTTAGGGTT GAACTATACA TATGATATTG TTAGAATATT TTTTAACATT ATATTTTATT 540  
 35 GCTTTAAAGT GGAATATACT TGAAATAATT AGTAGAGGTG AGTAAGGATG AGTAATAAAT 600  
 TAGAATCATA CAGAAGTGAG ATTGTATCAC TGAATCATCA AATTTTAGAC TTATTATCTA 660  
 AACGTGGTGA ACTAGCACAA AAAATTGGGG AAGAAAAATT AAAACAAGGT ACACGTATTT 720  
 40 ATGATCCACA ACGTGAAAAA GAAATGCTTA ACGACTTAAT CGATAGTAAC AAAGGACCAT 780  
 TCAACGATAA TACTATTAAG CAATTATTTA AAGAAATTTT CAAAGCCTCT ACAGATTTAC 840  
 AAAAATCTGA AAATGAAAAA CATTATATG TATCACGTAA GTTGAAACCT GAAGATACGA 900  
 45 TTGTAACATT TGATAATGGG GGCATTATAG GAGACGGCAA TAAATCATTT GTATTTGGGC 960  
 CATGTTTCACT TGAATCATTT GAACAAGTTG AAGCTGTTGC TAAAAACTTA CATGCTAAAG 1020  
 GTGAAAAATT TATTCGTGGC GGTGCATTTA AACCACGTAC ATCACCATAT GATTTCCAAG 1080  
 50 GCCTAGGTGT TGAAGGACTT AAAATACTTA AACAGATTAA AGATAAATAT GATTTAAATG 1140  
 TTGTCAGCGA AATCGTAAAT CCAAATGATT TTGAAGTGGC TGATGAGTAT TTAGACGTAT 1200

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|----|--|------|
|    | AAAAGCCTAT TCTATTAAAA CGTGGTTTAT CTGCTACAAT CGAAGAGTTT GTTTATGCAG  | 1320 |
|    | CTGAATACAT TGCTTCACAA GGTAATCAAA ACATTATTTT ATGTGAACGT GGAATCCGAA  | 1380 |
| 5  | CTTATGAAAA GCGACACGT AACACTTTAG ATATTCAGC AGTACCAATT TAAAAACAAG    | 1440 |
|    | GTACACACTT ACCAGTCATG GTAGATGTTA CGCATAGTAC AGGTCGTAAA GATATCATGT  | 1500 |
|    | TACCAACTGC GAATsAgCAT TAGCAGTTGG TGCTGATGGA GTTATGGCTG AGGTGCATCC  | 1560 |
| 10 | AGATCCATCT GTTGCACTTA GTGATGCGGG TCAACAAATG GATTTAGATG AATTCCAAGC  | 1620 |
|    | ATTTTATGAT GAATTAAAGC CTTTAGCTGA TTTATATAAC GCTAAAAAGT TAAAATAATA  | 1680 |
|    | TTCCAAGGAA ACTATAGACT ACTTAACTAA TATGTCATGT TGAAGTAGAA TATTATCTTT  | 1740 |
| 15 | GAATCGACAA TTTTAACTT ACAGCCATTG TAAGAGTATA TTACTTTTAG AGTGGCTATT   | 1800 |
|    | ATTTTTTGTA TAGAAATAAA GGTATACTGC ACTTAACGAT TGTATAATA CTTGCACT     | 1860 |
| 20 | TGTTCAATTT CACAATTATT AAAGATTATG ACTGATAGCA GTAATTAAAA TTATAACTAT  | 1920 |
|    | GAATTATCTG TAAAATATAA TAGATTCACA CATTGTGTC TGAAATGTGA ACATTTTTCA   | 1980 |
|    | ACAAATGCAA TTGATATTTG AAAAGGCTTT CTCAAAACAT TACAATTAAA AATGAAAAAA  | 2040 |
| 25 | GTTTATATAA AATTAAAATA TATCGTTCGT TATCATTTAG CGTTTGTTTT TATTCAAGC   | 2100 |
|    | TTTTGCTAA ATTTTCCAA AAAAAATAT GTTACTGTAA ATTAAAATAT GGTAACTAT      | 2160 |
|    | GAAAATGAAA TGAAAACATG TTATTATAAT GAATAAACG TTTACAAGGA GGAAATTATG   | 2220 |
| 30 | ACAGTTACTA TATATGATGT AGCAAGAGAA GCGCGTGTCT CTATGGCCAC AGTGTGCGGT  | 2280 |
|    | GTTGTAAATG GGAACCAAAA TGTTAAAGCA GAACTAAAA ATAAAGTTAA CGAAGTCATT   | 2340 |
|    | AAGCGTTTGA ATTATCGTCC AAATGCTGTT GCTAGAGGTT TAGCTAGTAA AAAGACAACA  | 2400 |
| 35 | ACAGTAGGTG TGATCATTCC AGATATATCT AATATCTATT ATTCACAACT TGCTCGTGGA  | 2460 |
|    | CTTGAAAGATA TTGCAACAAT GTATAAATAT CACTCAATTA TTTCAAATTC AGATAACGAT | 2520 |
| 40 | CCTGAAAAGG AAAAAGAAAT TTTTAATAAC TTATTAAGTA AACAGGTTGA TGGTATTATT  | 2580 |
|    | TTCCTTGGTG GTACAATTAC TGAAGAAATG AAAGAATTGA TAAATCAATC ATCTGTACCT  | 2640 |
|    | GTAGTAGTAT CAGGAACAAA TGTAAGGAT GCACATATAG CATCAGTTAA TATTGATTTT   | 2700 |
| 45 | ACTGAAGCTG CGAAAGAAAT TACGGGAGAA TTAATTGAAA AAGGCGCTAA ATCATTGCT   | 2760 |
|    | TTAGTAGGTG GAGAACATTC TAAAAAGCT CAAGAAGATG TTTTAGAAGG TTAACTGAA    | 2820 |
|    | GTGTTAAATA AAAATGGCCT TCAATTAGGT GATACATTGA ATTGTTCTGG TGCTGAAAGT  | 2880 |
| 50 | TATAAGAAG GCGTAAAAGC TTTTGCCAAA ATGAAAGGCA ATTTGCCAGA TGCCATTTTA   | 2940 |
|    | ATGCATAGTG CAATGGATGC TGGTATTAAA                                   | 3000 |

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|----|--|------|
|    | CCACAAC TTT CTAGTGT TAT TCAACC ATTA TATGAT ATCG GTGCAG TAGG GATGCG CTTA  | 3120 |
|    | TTAACAAA AT ATATGA ACGA TGAAAAG ATA GAAGAACC AA ATGTAG TTTT ACCTCA CAGA  | 3180 |
| 5  | ATTGAATA CC GAGGAA CTAC AAAATA AAATT CACAAA ATTA GGCATT CATC TAACGA CCCA | 3240 |
|    | AATTATAT GG GTGTTG GAAG AATGCCT TTT ATTTAT CTTT TAAAAT CGTT GCAGAT TAGG  | 3300 |
| 10 | TTACTTAT TG ACGAGT AGAT TCGTAC CAAC TCGCTAT ATG TAAAGCT AAT TTTTAT TTTT  | 3360 |
|    | TTTCACTA AT TTCTTT TGTG CGGGGG ACAT AGGTATA ATC ATTTAA ACGA TCTTCCC ATC  | 3420 |
|    | TTTTAGGT AA TAATTC AGAT GAATAAT GTT TCCATTT ATT AATCCATT CT AACGGT AAAAT | 3480 |
| 15 | AACCACTT TG AATTGG TTGA TCAATT AAAC TTAAGA ATAC ATGACT CCAT GCACGT GGTA  | 3540 |
|    | CGACTCTCCA AATATT GTAG CCTCCG CCAC CAAACATA AT TACCTTTCCA TTCGTATA AG    | 3600 |
|    | AATCAGCT AA ATATTTT ACA AAATAT GGAA TTTCAT ATAA TGAATGT AAC GTACAATT TA  | 3660 |
| 20 | GATGAGTT AG TGGATC ACGA TAATGT ATAT CGACACC ATT TACGCT TAGA ATAATAT CAG  | 3720 |
|    | GTTTAAAA CT CTTTAC GACA GGCTCA ACTG TTAATTT AAA ACACTCC AAA AATGAT GCAT  | 3780 |
|    | CTTCTGTATA CGGTTCA AGT GGGACAT TTA CAGTGT GTCC ATAGCC GATA TCTTCAC CGC   | 3840 |
| 25 | GCTCAGTATA GTGACC AGAG CCTGGG AAAA GAAATTTT CC GGTTTC ATGG ATAGAATA AG   | 3900 |
|    | TAGTAACAT G GTTATCG GCA TAGAAACT CC ATTGTGT ACC ATCTCC ATGA TGTGCAT CGG  | 3960 |
| 30 | TATCTATG AT TAAAAC GCGT TGATTGT ATT CTTTAG CTAA GTATTGT GCG GTAATTG CAA  | 4020 |
|    | TATCATTG TA TATACAAAA CCACCTTG CTC GACCAG GTTG AGCGTG ATGC AAACCACC AC   | 4080 |
|    | CTAAGTGACA ACCATTTA AT ACTTTG CCTG ACATAATA AG ATCTGCT AAA GTTAAAG CGC   | 4140 |
| 35 | CTCCAACA AT TGTGGCA CTA TGGCGGT GCA TATGCT TAAA TTGACC ATT C TCTTCAT CAT | 4200 |
|    | TTAATCCATA TTTCTT AGCC TCATCTT CAC TGATAAT GCC ATGTGA AGCA TGCTTA ATAG   | 4260 |
|    | CTTCGACG TA ATCATATTTA TGAATTA ACA TTAATTC GTC ATCTGTT GCA ATTCTAG GTT   | 4320 |
| 40 | GTACTATTT G TTCTGG AGAC AATAAA TTTG CATTCAA AAG TAGCTCT GTT GTTAATTT TA  | 4380 |
|    | AACGCATTT G ATTGAAG GGA TGTG GTCAT GAAATC GATA TTGTAATA AC TTATCT GAAT   | 4440 |
|    | AAACATAT GC AGTTTTT GAT GAATGTT GTT GCATATA ATC CCTCCG ATAT TCCAAAA ATT  | 4500 |
| 45 | AAAAGAAAA CCGATT CATA TAACGA ATAT CATCAA ACGC TTGTTG CTGT TCTAAT GTAA    | 4560 |
|    | TGTTTTT GCC AATTCTT GCC ATTAAACA AT TAGCTGG ATG ACTTGT TATT TCTGGAT CAT  | 4620 |
| 50 | CTGTAGCG AA TATTTCA AGT CCACCAG TTG CCATTA ACCG CTGCATT AAT TTTTAT AGT   | 4680 |
|    | CAAATACAT C TAACTTT GAA TTTTTT AAAT CCCAAT GCCA GTAATAT TCT GTAGTT ATAA  | 4740 |
| 55 | CGATATAATT CTCGAATT CT GGTGTAG AAA GGCTAAG TTG TATCAG CTTT TCTGCA AGTT   | 4800 |

[illegible]

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|    | TGATGTAATT ATGACAGCTG GTGAACGAGT TGGACCATTT GAGGTTGAGT CTAAATTGGT  | 6720 |
|    | TGAACACGAA GCAGTTGCCG AAGCAGGAAT TATTGGTAAA CCTGATCCGG TTCGCGGTGA  | 6780 |
| 5  | AATAATTAAG GCGTTTGTG CACTGAGAAA AGGATATGAA CCAACAGACG AATTAAAAGA   | 6840 |
|    | AGAAATTCGT ATATTTGTTA AAGAAGGTTT GTCGGCACAT GCAGCACCAC GTGAAATCGA  | 6900 |
| 10 | ATTTAAAGAT AAATTACCTA AAACACGGTC AGGTAAAATT ATGAGACGTG TATTAAAAGC  | 6960 |
|    | TTGGGAATTA AATTTAGATG CTGGGGATTT AAGTACAATG GAATAATGAC ATGAATGTTA  | 7020 |
|    | TTGAAGATTT TTTTCGAAGA ATAAAGGGTG ACAACATATT TCATGTCAAT GTTTAAATAA  | 7080 |
| 15 | TCGTTTACTT TACGATAAGC AATATAAAGA ACTGTTAACT TGTGTCATAT CATTTCGTAG  | 7140 |
|    | AAAGCATTTG AAAATGATGA CATAACAATA ATGGCATATC TTTATATTGC TTTTATTTTT  | 7200 |
|    | TAATATGATC TTTGGAAGAT GATTATTTTA AATAATAGAA AAATATAGTT ATCAATAGTA  | 7260 |
| 20 | TCAAGCGCTA AAAGTTGTAT AATACAAAAC TTTAATAAGT GAATTTATTG CAAAAATGAA  | 7320 |
|    | AGCGCTAACC CGATTTAGTC GACAAGTTTT TAACAGTTTCG TTATTATATG AATGTAAGTA | 7380 |
|    | AAAATTTCTT AGCTACAAC TACATATTAT AAATGCATAA ATTAACAAA AAGGGGCGAA    | 7440 |
| 25 | AAAAGTTGAC TCATTTATCA GATTTAGATA TTGCGAATCA ATCAACACTA CAACCAATTA  | 7500 |
|    | AGGATATTGC TGCATCAGTA GGTATTTTCAG AGGATGCATT AGAACCTTAT GGTCATTACA | 7560 |
|    | AAGCTAAAT CGACATTAAT AAAATTACGC CAAGAGAAAA CAAAGGGAAA GTTGTTTTAG   | 7620 |
| 30 | TAAGTGCAT GAGCCCAACA CCAGCTGGTG AAGGTAAATC AACGGTTACA GTTGGTTTTAG  | 7680 |
|    | CTGATGCATT CCATGAGTTA AATAAAAACG TTATGGTTGC ATTAAGAGAG CCTGCTTTAG  | 7740 |
| 35 | GACCAACATT TGGTATCAAA GGTGGTGCGA CTGGTGGTGG TTATGCGCAA GTCTTACCTA  | 7800 |
|    | TGGAAGATAT CAACTTACAT TTCAACGGAG ATTTCCATGC GATTACAAC TGCATAATG    | 7860 |
|    | CATTGTCTGC GTTTATCGAT AATCATATTC ACCAAGGTAA CGAATTAGGA ATCGATCAAA  | 7920 |
| 40 | GACGTATTGA GTGGAAACGT GTATTAGATA TGAATGATCG TGCACTTAGA CATGTAAACG  | 7980 |
|    | TTGGGTTAGG TGGACCTACA AATGGTGTAC CACGTGAAGA TGGCTTTAAT ATTACAGTAG  | 8040 |
|    | CGTCTGAAAT TATGGCGATT TTATGTTTAA GTAGAAGTAT TAAAGACTTA AAAGATAAAA  | 8100 |
| 45 | TTAGTCGTAT TACTATTGGT TACACTAGAG ATCGCAAGCC AGTTACAGTT GCAGATTTAA  | 8160 |
|    | AAGTGGAAGG TGCACCTGCA ATGATTTTAA AAGATGCAAT AAAACCAAAC TTAGTACAAT  | 8220 |
|    | CAATTGAAGG GACACCTGCA TTAGTTCATG GTGGACCATT TGCGAATATC GCACACGGTT  | 8280 |
| 50 | GTAAGTCAAT TTTAGCAACT GAAACAGCAC GTGATTTAGC TGATATCGTT GTAACGGAAG  | 8340 |
|    | CTGGATTTGG TTCAGACTTA GGCGCTGAAA AATTCATGGA CATTAAAGCG CGTGAAGCAG  | 8400 |

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|----|---|-------|
|    | GTGTAGCGAA AGATAATTTA AAAGAAGAAA ATGTAGAAGC AGTAAAAGCA GGAATTGTTA   | 8520  |
|    | ATTTAGAGCG TCATGTTAAT AATATTAAAA AATTCGGTGT AGAACCGGTT GTTGCAATTA   | 8580  |
| 5  | ATGCATTTAT ACATGATACC GATGCAGAAG TAGAATATGT AAAATCTTGG GCTAAAGAAA   | 8640  |
|    | ATAACGTACG AATTGCCTTA ACTGAAGTTT GGGAAAAAGG TGGTAAAGGT GCGGTTGACT   | 8700  |
| 10 | TAGCAAATGA AGTATTAGAA GTCATTGATC AACCTAATTC ATTTAAACCT TTATATGAAT   | 8760  |
|    | TAGAATTACC ATTAGAGCAA AAGATTGAAA AGATTGTGAC TGAAATCTAT GGCGGTTCAA   | 8820  |
|    | AAGTAACGTT TAGCAGTAAA GCGCAAAAAC AATTAAAAACA ATTTAAAGAA AATGGTTGGG  | 8880  |
| 15 | ATAATTACCC AGTATGTATG GCGAAAACAC AATATTCATT CTCAGATGAT CAAACGTTGT   | 8940  |
|    | TAGGTGCACC ATCAGGATTT GAAATTACAA TTCGTGAATT AGAAGCGAAA ACAGGTGCAG   | 9000  |
|    | GATTTATCGT AGCGTTGACA GGTGCAATCA TGACTATGCC TGGTTTACCT AAAAAACCAG   | 9060  |
| 20 | CAGCATTAAA CATGGATGTT ACTGATGATG GTCATGCAAT TGGGTTATTC TAATAAATCA   | 9120  |
|    | TGTCAATTGT TTAATAAAGA TAAGTAAATA GTTTAATAGA CCGGACTGTT GGAGATGCAT   | 9180  |
|    | TATTTACAGCA GTTCGGTTTT TTGCTGTGCT AAAAAATAGAT TCAATTTGGC GAATCTAACG | 9240  |
| 25 | ACAATGTTTG AAGGTGGTTA ATTAATGTAT ATGAAGATAA AAAGTGGGCT TGAAGAATAG   | 9300  |
|    | GAAAGCGATG CAATGAATAT TCCATATTAA AAAAAATTAA TAAATAGGT TGCAATATTT    | 9360  |
|    | AATTGGGATG CGCTACAATT AACACTAATA ATTGATATTG ATAATTATTA TCAATTAAAT   | 9420  |
| 30 | ATAATCTTAT AGGAGTTGTT AACAACATGA ACAAACATCA CCCAAAATTA AGGTCTTTCT   | 9480  |
|    | ATTCTATTAG AAAATCAACT CTAGGCGTTG CATCGGTCAT TGTCAGTACA CTATTTTTAA   | 9540  |
| 35 | TTACTTCTCA ACATCAAGCA CAAGCAGCAG AAAATACAAA TACTTCAGAT AAAATCTCGG   | 9600  |
|    | AAAATCAAAA TAATAATGCA ACTACAACCTC AGCCACCTAA GGATACAAAT CAAACACAAC  | 9660  |
|    | CTGCTACGCA ACCAGCAAAC ACTGCGAAAA ACTATCCTGC AGCGGATGAA TCACTTAAAG   | 9720  |
| 40 | ATGCAATTAA AGATCCTGCA TTAGAAAATA AAGAACATGA TATAGGTCCA AGAGAACAAG   | 9780  |
|    | TCAATTTCCA GTTATTAGAT AAAACAATG AAACGCAGTA CTATCACTTT TTCAGCATCA    | 9840  |
|    | AAGATCCAGC AGATGTGTAT TACACTAAAA AGAAAGCAGA AGTTGAATTA GACATCAATA   | 9900  |
| 45 | CTGCTTCAAC ATGGAAGAAG TTTGAAGTCT ATGAAAACAA TCAAAAATTG CCAGTGAGAC   | 9960  |
|    | TTGTATCATA TAGTCCTGTA CCAGAAGACC ATGCCTATAT TCGATTCCCA GTTTCAGATG   | 10020 |
|    | GCACACAAGA ATTGAAAATT GTTTCCTTCGA CTCAAATTGA TGATGGAGAA GAAACAAATT  | 10080 |
| 50 | ATGATTATAC TAAATTAGTA TTTGCTAAAC CTATTTATAA CGATCCTTCA CTTGTAAAAT   | 10140 |
|    | ATCAATCAAG TTCAGTCGCA AGTAATCAAA                                    | 10200 |

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|----|---|-------|
|    | AGGCAACGAC CAATATGAGT CAACCTGCAC AACCAAAATC GTCAACGAAT GCAGATCAAG | 10320 |
|    | CGTCAAGCCA ACCAGCTCAT GAAACAAATT CTAATGGTAA TACTAACGAT AAAACGAATG | 10380 |
| 5  | AGTCAAGTAA TCAGTCGGAT GTTAATCAAC AGTATCCACC AGCAGATGAA TCACTACAAG | 10440 |
|    | ATGCAATTAA AAACCCGGCT ATCATCGATA AaGAACATAC AGCTGATAAT TGGCGACCAA | 10500 |
| 10 | TTGATTTTCA AATGAAAAAT GATAAAGGTG AAAGACAGTT CTATCATTAT GCTAGTACTG | 10560 |
|    | TTGAACCAGC AACTGTCATT TTTACAAAAA CAGGACCAAT AATTGAATTA GGTTTAAAGA | 10620 |
|    | CAGCTTCAAC ATGGAAGAAA TTTGAAGTTT ATGAAGGTGA CAAAAAGTTA CCAGTCGAAT | 10680 |
| 15 | TAGTATCATA TGATTCTGAT AAAGATTATG CCTATATTCG TTTCCAGTA TCTAATGGTA  | 10740 |
|    | CGAGAGAAGT TAAAATTGTG TCATCTATTG AATATGGTGA GAACATCCAT GAAGACTATG | 10800 |
|    | ATTATACGCT AATGGTCTTT GCACAGCCTA TTACTAATAA CCCAGACGAC TATGTGGATG | 10860 |
| 20 | AAGAAACATA CAATTTACAA AAATTATTAG CTCCGTATCA CAAAGCTAAA ACGTTAGAAA | 10920 |
|    | GACAAGTTTA TGAATTAGAA AAATTACAAG AGAAATTGCC AGAAAAATAT AAGGCGGAAT | 10980 |
|    | ATAAAAAGAA ATTAGATCAA ACTAGAGTAG AGTTAGCTGA TCAAGTTAAA TCAGCAGTGA | 11040 |
| 25 | CGGAATTTGA AAATGTtACA CCTACAAATG ATCAATTAAC AGATTTACAA GAAGCGCATT | 11100 |
|    | TTGTTGTTTT TGAAAGTGAA GAAAATAGTG AGTCAGTTAT GGACGGCTTT GTTGAACATC | 11160 |
|    | CATTCTATAC AGCAACTTTA AATGGTCAAA AATATGTAGT GATGAAAACA AAGGATGACA | 11220 |
| 30 | GTTACTGGAA AGATTTAATT GTAGAAGGTA AACGTGTCAC TACTGTTTCT AAAGATCCTA | 11280 |
|    | AAAATAATTC TAGAACGCTG ATTTTCCCAT ATATACCTGA CAAAGCAGTT TACAATGCGA | 11340 |
| 35 | TTGTTAAAGT CGTGTGGCA AACATTGGTT ATGAAGGTCA ATATCATGTC AGAATTATAA  | 11400 |
|    | ATCAGGATAT CAATACAAAA GATGATGATA CATCACAAAA TAACACGAGT GAACCGCTAA | 11460 |
|    | ATGTACAAAC AGGACAAGAA GGTAAGGTTG CTGATACAGA TGTAGCTGAA AATAGCAGCA | 11520 |
| 40 | CTGCAACAAA TCCTAAAGAT GCGTCTGATA AAGCAGATGT GATAGAACCA GAGTCTGACG | 11580 |
|    | TGGTTAAAGA TGCTGATAAT AATATTGATA AAGATGTGCA ACATGATGTT GATCATTTAT | 11640 |
|    | CCGATATGTC GGATAATAAT CACTTCGATA AATATGATTT AAAAGAAATG GATACTCAAA | 11700 |
| 45 | TTGCCAAAGA TACTGATAGA AATGTGGATA AAGATGCCGA TAATAGCGTT GGTATGTCAT | 11760 |
|    | CTAATGTCGA TACTGATAAA GACTCTAATA AAAATAAAGA CAAAGTCATA CAGCTGAATC | 11820 |
|    | ATATTGCCGA TAAAAATAAT CATACTGGAA AAGCAGCAAA GCTTGACGTA GTGAAACAAA | 11880 |
| 50 | ATTATAATAA TACAGACAAA GTTACTGACA AAAAAACAAC TGAACATCTG CCGAGTGATA | 11940 |
|    | TTCATAAAAC TGTAATAAAA ACAGTGAAAA CAAAAGAAAA AGCCGGCACA CCATCGAAAG | 12000 |

CATGGTGGGG CTTATATGCG TTATTAGGTA TGTTAGCTTT ATTCATTCCT AAATTCAGAA 12120  
 AAGAATCTAA ATAATTAnCT AAATATAGCA TATGTATGAT TAACTTTGTA GAC 12173

(2) INFORMATION FOR SEQ ID NO: 311:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1316 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 311:

CAACATTAAT ATTGATATTA AATCTTCCTG GATAACGTGC TTGTTGAGT GATAAGTATG 60  
 CACGCACTTG ACTTAACTCT TTATCTAAAG TAATCGTATG TTGCTTAGAG CCTTGTAAT 120  
 TCGCTCTGAA AAAATAACTC AATTCTAATA GTAAGTCTCG TGCCTTTTCG CTATTTATTC 180  
 TAACTAAAGC TGAGATCGTG TTAATTGAAT TGAAGAAAAA ATGTGGACTC ACTTGTGCCT 240  
 GTAATGACTT AATCTCAGCA TCTTTCAATA ACTTACTTTG CGTTTCGGCT TCACCAAGTT 300  
 CAATTTGGCT ACTAAAAATA TTTGCCAATC CTTCTGCAAG TTGACGTTCC AAAAAAGTTA 360  
 AATCATTAGG GTTTGTAAAA TACATCTTCA ATGTACCGAC GATAGAACCA TGCATCTCAA 420  
 GTGGTATCAC GATAGCTGCT CTAAGCGGGC AATTCGGATG ACTACAACCA ATCTCTTCTT 480  
 TAGTATGAAC TTCTTTCAAC TTTCTGATT TCAATACATC TTTAGACAGA CTTGTTAATA 540  
 TTTCATTTGT TGGTATGTGA TGATCACTAC CTGCACCTAC ATGCGATAAG ATTTCATTTT 600  
 TGCTTGTAAT TGCTACGGCA GATACTTTCA TTAAATTTTT AATAATCATC GCAATTTGCT 660  
 GTGCCGATTC TCTATTCAAT CCTTCTTTAA AATACGGCAA TGTCTGGTTC ATCAATTGCA 720  
 GTAATCATG TGTTTGAACA GCCTTCATTT GCTCCTCTTG CTTTAATGTT GAAATGATAA 780  
 TAGACATAAA AATCGCCGTA CCAACGCTAT TAACAATAAT CATTGGTAGT GCAATTAATG 840  
 ATATGAGGTC AACCGCATAT GCTTTGTCGT GGGAAAATGT TAAAATGCTC AACATTTGAA 900  
 TCATTTCCAT AACAAATCCA ATCATGGCAC TTTTCGCAAT ACTCGGGTAA CGCTTGCGTC 960  
 TTTGAGCTTG TAAGCCAAAA TAACCAGCAA TTATACCAAT AAATATAGAT GAGATAAGAT 1020  
 AAACCTGTGC ATCCGCCCCA CCCATATACA CTCTGAAAAT ACCTGAAATA ACGCCAACAA 1080  
 ATAGACCTAC AAAAGGGCCA CCAACTAATC CTGCGACACC TATCGTTAAT ACACGTGTGT 1140  
 TAGCTAAAGA TACATCATCA TCTAAACGGA AGTACACACT TCCTGACAAA CTATGTTGAT 1200  
 TAAAGGCAAA CAAACTGAAA ATAATACATA 1260

## (2) INFORMATION FOR SEQ ID NO: 312:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 7972 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 312:

|    |   |      |
|----|---|------|
|    | TATAAATATT ATTTTATTAT CGTTTATCGC TATTTGTGTT ACATAATCAA AACCATAAAT | 60   |
| 15 | TCTTACTCAT TCAGATTTAC CCAATATTTT TACTTTTATA ATGTAATGCG TTTTATCCAA | 120  |
|    | GTTATTTTTT AAAAATAAAT ATTGAATTnG GGGCTGnTTT CATGTCATTA AGAGATGAAG | 180  |
|    | CATTGGAAAT GCACAAACGT AATCAAGGTA AATTAGAAGT TAAACCAAAT GTAAAAGTTA | 240  |
| 20 | CTAATAAAGA GGAATTAAGT TTAGCATACT CACCTGGCGT TGCTGAACCG TGTAAGATA  | 300  |
|    | TTTATGAAGA TAAAAGAAAA GTATATGATT ACACAATTAA AGGAAATACA GTTGCAGTTA | 360  |
|    | TTACTGATGG AACAGCGGTA TTAGGTTTAG GTAACATTGG ACCTGAAGCA AGTATTCCTG | 420  |
| 25 | TAATGGAAGG TAAAGCAGTA TTATTCAAAA GCTTCGCTGG TATCAATGGG GTGCCTATTG | 480  |
|    | CGTTAAATAC AACTGATACC GAAGAAaTCA TTA AACAGT TAAGTTGTTA GAACCTAATT | 540  |
| 30 | ATGGTGGTAT TAATTTAGAG GATATTTCCG CACCACGTtG TTTTGAAATT GAAGAACGAT | 600  |
|    | TGAAAAAAGA AACTAATATT CCGGTATTCC ATGACGATCA ACATGGTACA GCAATTGTAA | 660  |
|    | CATTGGCAGG TTTGGTAAAT GCATTGAGAG TTGTTAACAA AGATATTGCT AAAATAAAAG | 720  |
| 35 | TTGTACTAAA TGGTGCTGGT GCAGCAGGAA TAGCCATTGT TAAATTACTA TACGCGTATG | 780  |
|    | GTGTAAGAAA TATGGTTATG TGTGACTCAA GAGGCGCAAT TTTTGAAGGA CGTTCATATG | 840  |
|    | GTATGAATCC TACGAAAGAT GTTGTAGCAA AATGGACAAA TAAAGATAAG ATTGAAGGGT | 900  |
| 40 | CTTTAGAAGA AGTCGTAAAA GACGCAGATG TATTTATCGG GGTTTCTGTA GCTAATGCGC | 960  |
|    | TGTCACAAGA TATGGTTAAG AGTATGGCAG ATAATCCAAT TATATTTGCA ATGGCTAATC | 1020 |
|    | CAAATCCTGA AATAATACCT GATGATGCCA AAGCGGCAGG TGCACGAGTT GTTGGTACAG | 1080 |
| 45 | GACGTTCAGA CTATCCTAAC CAAATTAATA ATGTATTAGC TTTCCCTGGT ATTTTTAGAG | 1140 |
|    | GTGCATTAGA GGTGAAGCT ACACATATAA ATGAAGAAAT GAAAAAGGCA GCTGTAGAAG  | 1200 |
|    | CGATTGCTGA TTTAATCGAT AGTTCTGAAT TAAATGAAGA CTAATGTATC CCAGGACCGT | 1260 |
| 50 | TTGATAAACG TGTAGCGCCA TCAGTTGCTC GTAATGTTGC TAAAGCGGCA ATGGAATCTG | 1320 |
|    | GAGTAGCTAG GATTGAAGTT GATCCGCAAG ATGTGTATGA TAAAACAATG AAACCTACAG | 1380 |

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|----|---|------|
|    | ATTAAAAATGA TGAAAAATGAA AGTTTATGAT AAACATTCAA CAGTCAAACG AATATAAATC | 1500 |
|    | AAATAAATTT AAACCCGTTT TTAAGTGGTC AAGTTCAGTT TAAGGCTCTA AATGGTTAGA   | 1560 |
| 5  | ACAGAGGTTA TTTGGAGGTT TTCCTATGTT TAAAGATTTT TTTAATCGAA CAAAGAAAAA   | 1620 |
|    | GAAATATCTT ACAGTACAAG ACTCTAAAAA TAATGATGTG CCTGCAGGTA TTATGACTAA   | 1680 |
|    | GTGTCCAAAG TGTAAGAAAA TTATGTACAC AAAAGAATTA GCTGAAAATT TAAATGTGTG   | 1740 |
| 10 | CTTTAATTGT GATCATCATA TTGCTTTAAC TCGGTATAAA CGTATAGAAG CAATTTCTGA   | 1800 |
|    | TGAAGGATCA TTTACAGAAT TCGATAAGGG AATGACCTCT GCGAATCCAT TAGATTTTCC   | 1860 |
|    | aAGTTATTTA GAAAAAATTG AAAAGGACCA ACAAAGACA GGTCTTAAAG AAGCAGTTGT    | 1920 |
| 15 | GACTGGTACA GCACAACTAG ATGGTATGAA ATTTGGCGTT GCTGTCATGG ATTACGTTT    | 1980 |
|    | TAGAATGGGA AGTATGGGAT CGGTTATCGG TGAAAAGATA TGTGCGATCA TTGATTACTG   | 2040 |
| 20 | CACTGAGAAC CGTTTACCAT TTATTCTTTT CTCTGCAAGT GGTGGTGCAC GTATGCAAGA   | 2100 |
|    | AGGTATTATT TCCTTGATGC AAATGGGTAA AACCAGTGTA TCTTTAAAAC GTCATTCTGA   | 2160 |
|    | CGCTGGACTA TTATATATAT CATATTTAAC ACATCCAAC ACTGGTGGTG TATCTGCAAG    | 2220 |
| 25 | TTTTGCATCA GTTGGTGATA TAAATTTAAG TGAGCCAAAA GCGTTGATAG GTTTTGCAGG   | 2280 |
|    | TCGTCGAGTT ATTGAACAGA CAATAAACGA AAAATTGCCA GATGATTTCC AAAGTGCAGA   | 2340 |
|    | ATTTTTATTA GAGCATGGAC AATTGGATAA AGTTGTACAT CGTAATGATA TCGGTCAAAC   | 2400 |
| 30 | ATTGTCTGAA ATTCTAAAAA TCCATCAAGA GGTGACTAAA TAATGTTAGA TTTTGAAAAA   | 2460 |
|    | CCACTTTTTG AAATTCGAAA TAAAATTGAA TCTTTAAAAG AATCTCAAGA TAAAAATGAT   | 2520 |
|    | GTGGATTTAC AAGAAGAAAT TGACATGCTT GAAGCGTCAT TGGAACGAGA AACTAAAAAA   | 2580 |
| 35 | ATATATACAA ATCTAAAACC ATGGGATCGT GTGCAAATTG CGCGTTTGCA AGAAAGACCT   | 2640 |
|    | ACGACCTAG ATTaTATTCC ATATATCTTT GATTGTTTTA TGGAACTACA TGGTGATCGT    | 2700 |
| 40 | AATTTTAGAG ATGATCCAGC AATGATTGGT GGTATTGGCT TTTTAAATGG TCGTGCTGTT   | 2760 |
|    | ACAGTTaTTG GACAACAACG TGGAAAAGAT ACAAAGATA ATATTTATCG AAATTTTGGT    | 2820 |
|    | ATGGCGCATC CAGAAGGTTA TCGAAAAGCA TTACGTTTAA TGAAACAAGC TGAAAAATTC   | 2880 |
| 45 | AATCGTCCTA TCTTTACATT TATAGATACA AAAGGTGCAT ATCCTGGTAA AGCTGCTGAA   | 2940 |
|    | GAACGTGGAC AAAGTGAATC TATCGCAACA AATTTGATTG AGATGGCTTC ATTAAAAGTA   | 3000 |
|    | CCAGTTATTG CGATTGTCAT TGGTGAAGGT GGCAGTGGAG GTGCTCTAGG TATTGGTATT   | 3060 |
| 50 | GCCAATAAAG TATTGATGTT AGAGAATAGT ACTTACTCTG TTATATCTCC TGAAGGTGCA   | 3120 |
|    | CGCTGAAAC AATGAAAATT  | 3180 |

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|    | GGTGCACATA AAGATATTGA ACAGCAAGCT TTAGCTATTA AATCAGCGTT TGTTGCACAG  | 3300 |
|    | TTAGATTACAC TTGAGTCATT ATCACGTGAT GAAATTGCTA ATGATCGCTT TGAAAAATTC | 3360 |
| 5  | AGAAATATCG GTTCTTATAT AGAATAATCA ACTTGAGCAT TTTTATGTTA AATCGATACT  | 3420 |
|    | GGGTTTTACC ATAAATTGAA GTACATTAAA ACAATAATTT AATATTTAGA TACTGAATTT  | 3480 |
| 10 | TAAC TAAGAT TAGTAGTCAA AATTGTGGCT ACTAATCTTT TTTTAATTAA GTTAAAATAA | 3540 |
|    | AATTCAATAT TTAACCGTT TACATCAATT CAATACATTA GTTTTGATGG AATGACATAT   | 3600 |
|    | CAATTTGTGG TAATTTAGAG TTAAAGATAA ATCAGTTATA GAAAGGTATG TCGTCATGAA  | 3660 |
| 15 | GAAAATTGCA GTTTTAACTA GTGGTGGAGA TTCACCTGGA ATGAATGCTG CCGTAAGAGC  | 3720 |
|    | AGTTGTTTCGT ACAGCAATTT ACAATGAAAT TGAAGTTTAT GGTGTGTATC ATGGTTACCA | 3780 |
|    | AGGATTGTTA AATGATGATA TTCATAAACT TGAATTAGGA TCAGTTGGGG ATACGATTCA  | 3840 |
| 20 | GCGTGGAGGT ACATTCTTGT ATTCAGCAAG ATGTCCAGAG TTTAAGGAGC AAGAAGTACG  | 3900 |
|    | TAAAGTTGCA ATCGAAAAC TACGTAAAAG AGGGATTGAG GGCCTTGTAG TTATTGGTGG   | 3960 |
|    | TGACGGTAGT TATCGCGGTG CACAACGCAT CAGTGAGGAA TGTAAGAAA TTCAACTAT    | 4020 |
| 25 | CGGTATTCCT GGTACGATTG ACAATGATAT CAATGGTACT GATTTTACAA TTGGATTGTA  | 4080 |
|    | CACAGCATT AATACGATTA TTGGCTTAGT CGACAAAATT AGAGATACTG CGTCAAGTCA   | 4140 |
|    | CGCACGAACA TTTATCATTG AAGCAATGGG CCGTGATTGT GGAGATCTAG CATTATGGGC  | 4200 |
| 30 | TGGATTATCA GTTGGTGCTG AGACAATTGT AGTTCAGAA GTGAAAACAG ATATTAAAGA   | 4260 |
|    | AATAGCTGAT AAAATTGAAC AAGGTATTAA ACGTGGTAAG AAACACTCAA TCGTTCTTGT  | 4320 |
| 35 | AGCAGAAGGT TGTATGACTG CGCAAGATTG TCAAAAAGAA TTATCACAAT ACATCAATGT  | 4380 |
|    | TGATAATAGA GTGTCTGTGT TAGGTCACGT TCAACGTGGT GGAGCCCAA CAGGTGCGGA   | 4440 |
|    | TAGAGTTTTA GCATCACGTT TAGGTGGATA TGCGGTAGAC TTATTAATGC aAGGTGAAAC  | 4500 |
| 40 | AGCTAAGGGT GTTGAATTA AGAACAATAA AATTGTAGCA ACATCTTTTG ATGAAATTTT   | 4560 |
|    | TGATGGTAAA GATCATAAAT TTGATTATAG TCTATATGAA CTTGCTAACA AGTTATCTAT  | 4620 |
|    | ATAAGATTC AGGAGGAATT ATAAAATGAG AAAAACTAAA ATTGTATGTA CAATTGGACC   | 4680 |
| 45 | AGCTTCAGAA TCAGAAGAAA TGATTGAGAA ATTAATCAAT GCTGGTATGA ACGTTGCACC  | 4740 |
|    | ATTAACTTT TCACATGGTA GTCATGAAGA GCATAAAGGT AGAATTGATA CAATTCGTAA   | 4800 |
|    | AGTAGCTAAA AGATTAGACA AAATTGtAGC AATTTTATTA GATACAAAAG GTCCAGAAAT  | 4860 |
| 50 | TCGTACGCAT AATATGAAAG ACGGTATCAT TGAAC TTGAA CGTGGCAACG AAGTTATTGT | 4920 |
|    | TAGCATGAAT GAAGTTGAAG GAACACCTGA AAAGTTCTCA GTAACATATG aAAACTTAAT  | 4980 |

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|----|---|------|
|    | TAAAGATATT GACCATGCTA AAAAAGAAGT TAAATGTGAT ATTTTAAACT CTGGTGAGCT | 5100 |
|    | TAAAAACAAA AAAGGTGTTA ACTTACCTGG CGTAAGAGTA AGTTTACCTG GTATTACAGA | 5160 |
| 5  | AAAAGATGCT GAAGATATCC GTTTCGGTAT TAAAGAAAAT GTTGACTTCA TTGCAGCAAG | 5220 |
|    | TTTCGTACGT CGTCCTAGTG ATGTTTTAGA AATTCGTGAA ATTTTAGAAG AACAAAAAGC | 5280 |
| 10 | TAACATTTCA GTATTCCCTA AAATTGAAAA CCAAGAAGGT ATTGATAATA TTGCGGAAAT | 5340 |
|    | TCTTGAAGTG TCTGATGGTT TAATGGTTGC ACGTGGTGAC ATGGGTGTTG AAATTCCACC | 5400 |
|    | TGAAAAAGTA CCAATGGTTC AAAAAGATTT AATCAGACAA TGTAACAAAT TAGGTAAACC | 5460 |
| 15 | AGTTATTACA GCTACACAAA TGTTAGATTC TATGCAACGT AACCACGTG CTACACGTGC  | 5520 |
|    | AGAAGCTAGT GACGTTGCCA ACGCAATCTA TGATGGTACA GATGCAGTAA TGTTATCTGG | 5580 |
|    | TGAAACTGCT GCTGGTTTAT ATCCTGAAGA AGCTGTTAAA ACAATGAGAA ATATTGCTGT | 5640 |
| 20 | ATCAGCTGAA GCAGCCCAAG ATTACAAAAA GTTATTGTCA GATCGTACTA AATTAGTTGA | 5700 |
|    | AACTTCATTA GTGAATGCTA TCGGTATTTT GGTTCACAT ACAGCTTTAA ACTTAAATGT  | 5760 |
|    | TAAAGCAATT GTAGCTGCTA CTGAAAGTGG TTCAACGGCA CGTACTATCT CCAAATATCG | 5820 |
| 25 | TCCACATTCA GACATTATTG CGGTGACTCC AAGTGAAGAA ACTGCACGTC AATGTTCAAT | 5880 |
|    | TGTTTGGGGA GTTCAACCTG TAGTTAAAAA AGGACGTAAG AGTACAGATG CATTGTTAAA | 5940 |
| 30 | CAATGCAGTT GCAACAGCTG TTGAACTGG TAGAGTATCT AATGGTGATT TAATCATTAT  | 6000 |
|    | TACTGCTGGT GTACCAACTG GTGAACTGG AACTACTAAT ATGATGAAAA TCCACCTAGT  | 6060 |
|    | TGGTGACGAA ATTGCTAATG GTCAAGGTAT TGGACGTGGA TCAGTTGTTG GTACTACGTT | 6120 |
| 35 | AGTTGCTGAA ACTGTTAAAG ATTTAGAAGG TAAAGATTTA TCTGACAAAG TTATCGTTAC | 6180 |
|    | TAATCAATC GATGAAACGT TTGTACCTTA TGTAGAAAAA GCTTTAGGCT TAATTACAGA  | 6240 |
|    | AGAAAATGGT ATTACATCAC CAAGTGCAAT TGTTGGTTTA GAAAAAGGTA TTCCAACAGT | 6300 |
| 40 | TGTAGGTGTA GAAAAAGCTG TTAAAAACAT AAGCAATAAC ATGTTAGTTA CGATTGATGC | 6360 |
|    | TGCTCAAGGT AAAATCTTTG AAGGATATGC AAACGTACTA TAATTTATAA AAAAACGTCT | 6420 |
|    | TTCCATTTAT CAACAATGGA AAGGCGTTTT TTGGTTcATC TGGTATTTTA TGACGTAATT | 6480 |
| 45 | AATAGGTTAT TTGATAATGA TAGTGTATGA ATGGCAATCT ATATAAATGT TTATATCTTT | 6540 |
|    | TATACATGTA CATTATCACC TTCAAACCTT CACTCATATT ACTTTGAAAA TTTATTATAA | 6600 |
|    | AATAGAAGTA TGGATGTATT TCTGAAATGA TACATTATTA AATAGATGAG AAAGTAAAAG | 6660 |
| 50 | TTTGTAGCCA AGTACGCAAT TTAATATTAT AAGTTGCATA TAAAACAGGA TGGGACATAA | 6720 |
|    | TTTGTAGCCA AGTACGCAAT TTAATATTAT AAGTTGCATA TAAAACAGGA TGGGACATAA | 6780 |

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|------------|-------------|------------|-------------|-------------|------------|------|
| CTTTCGACTG | GCACTGCTCC  | CTCAGGAGTC | TCGCCATTAA  | TACTACGTAT  | TAACATGTAA | 6900 |
| TTTTACTTTT | ACATACTTTA  | AAAAAATAAA | ACACTTTGCC  | CAACTTGCCAC | ATAAATGTAA | 6960 |
| AATTCAATAA | AATGAATTTT  | CTGTGTTGGG | TCCCTTCGTA  | TAATTTAATA  | AATACCACTA | 7020 |
| AACTAAATTA | ACGAGGTGCC  | TTATGTATAA | AATTTATAAC  | ATGACCCAAC  | TTACACTACC | 7080 |
| AATAGAAACC | TCTGTTAGAA  | TTCCTCAAAA | TGATATTTTCG | CGATATGTTA  | ATGAAATTGT | 7140 |
| TGAAACGATA | CCTGATAGCG  | AATTCGATGA | ATTGAGACAT  | CATCGTGGCG  | CAACATCCTA | 7200 |
| TCATCCAAAA | ATGATGTTAA  | AAATCATCTT | ATATGCATAT  | ACTCAATCTG  | TATTTTCTGG | 7260 |
| TCGTAGAATA | GATAAAATTAC | TTCATGACAG | TATTCGAATG  | ATGTGGTTAG  | CTCAAGATCA | 7320 |
| AACACCTTCT | TATAAACTA   | TTAATCGTTT | TAGAGTGAAT  | CCTAATACTG  | ATGCGTTAAT | 7380 |
| TGAATCTTTA | TTTATTCAGT  | TCCATAGTCA | ATGTTTAAAG  | CAAAATCTTA  | TTGATAATAA | 7440 |
| TTCAATTTTT | ATTGATGGTA  | CAAAAGTAGA | AGCTAATGCC  | AATAGATATA  | CATTTGTGTG | 7500 |
| GAAGAAAAGT | ATTCAAAATC  | ACGAATCGAA | ATTGAACGAA  | AATTCAAAAA  | CATTATATCG | 7560 |
| TGACTTAGTT | GAAGAAAAAA  | TAATACCAGA | GATAAAAGAA  | GATGGAGATA  | GCGATTTAAC | 7620 |
| AATAGAAGAA | ATAGATTTAA  | TTGGTAGTCA | TTTAGATAAA  | GAAATCGAAG  | ATTTAAATCA | 7680 |
| TTCTATTGAG | AACGAAGATT  | GTGCTCAAAT | TAGAAAACAG  | ACCCGTAAAA  | AAATAACTGA | 7740 |
| GATTAAGAAG | TTCAAAAAGA  | AATTTGATGA | TTATTCCGAA  | AGAAAAAATA  | AATATGAAGA | 7800 |
| ACAAAAATCG | ATTCTTAAAG  | ATAGAAATAG | TTTTTCTAAA  | ACTGATCTGA  | TCATGATGCA | 7860 |
| ACTTTTATGA | GAATGAAGGA  | AGACCATATG | AAAAATGGCC  | AACTTAAGCC  | AGGATACAAT | 7920 |
| TTACAAATAG | CGACAAATTC  | TCAAAAATGT | TTTATCCTAT  | GACCTATTTT  | AA         | 7972 |

## (2) INFORMATION FOR SEQ ID NO: 313:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3175 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 313:

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|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| ATTTTTTAGT | TAATTGTCTT | TCTTAAAATA | ATTTTAGCTT | TCATTAAATT | AAACAATTTT | 60  |
| ACAAGCTTGG | AACACCAATC | AAAATCCTAA | GTTCTAAAAT | GCAATATTAG | TAGTCGTTGA | 120 |
| CTGAATGAAC | ATATGCTTAT | AATATTTTTT | TGCAATGCTA | GTCAAGTTGA | TTTATGCTCA | 180 |
| CAAGGATATG | CGATTTATAT | TTTCTTACAA | CAATGAAAAT | GCCTGATACA | ATGCGATCCT | 240 |

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|----|--|------|
|    | AATTAAATTA TTGTTGTTTT AACCATGTGA CTATCGTCGG AATCATAAAT CCTGTTGGCC  | 360  |
|    | CTTTTGGACC ATTATATGAA GCTTTATTAG TCGTTGCTGG ACCTGCAATA TCGAAATGAA  | 420  |
| 5  | TGTGAGGTGT TTGACCACTA AAATGTGTTA CAAAACCTGC CGCAAATAGC GCTTTACCTT  | 480  |
|    | GTCCATTTCGT ATGGTTAACT AAATCAGCGA TATCACTGTG TTTAATACTT GCACGTTCCG | 540  |
|    | TTGCAGTAAT CGGTAATTCA AATACCATTT CATCGACTTC AGAACTTATT TGTAATATAT  | 600  |
| 10 | CGTTTAATAT CACTTTACTA TTCGATTCAA ATGCAGCAGC TTTATCATCG CCTAGTGCAa  | 660  |
|    | CAATTGCTGC ACCCGTTAAT GTAGCAAAGT CCATAATCAC ACTAGGCTGA TATTGATTTG  | 720  |
|    | CATAAAACAC AGCATCTGCA AGGACTAATC TACCTTCAGC GTCTGTATTc ATTACTTCTA  | 780  |
| 15 | CAGTTTCACC ACTTAATGCT GTAAATACAT CATCTGGcTT CATTGATGCT TCATTTATCA  | 840  |
|    | TATTTTCAGC ACACGCAAGC ACTCCGACAA TATTTACAGG CAGTTGTAAA CGAcTAGCCG  | 900  |
| 20 | CTTCAATGAT ACCAACGACA TTCGCAGCGC CACACATGTC AAACCTTCATT GTAGCCATGC | 960  |
|    | CATTCTTCGT TTTAATACTA TAACCACCAG AATCATACGT TATACCTTTA CCAACTAAGG  | 1020 |
|    | CAATTGGTGC TTCATCTTTG TCTTTGCCAT TATATGTGAT GGTTACTAAc CTCGGTTTAT  | 1080 |
| 25 | GCTTACTACC TTTACCTACT GCTTGTA AAA GTCCGAATCC TTCAGAACT AAAGTGTcAT  | 1140 |
|    | AATCTTTAAC ATCTACTTTG ACCTTTGTAT TTTTAAAATG ATTAACAATA TCTTCTGcAA  | 1200 |
|    | ATGTTTGTGG TGtTAATACA TTCGGTGGcA TATTACTAAA GTCTCyTGcC AAATTAATGG  | 1260 |
| 30 | aTTGGcCAAT ACTGATACCC TCATGAATAA AATCTAATTC AATTAATGAT TCACTAATAA  | 1320 |
|    | GGkTTAAATT CGTcTTAAAC GGtGCCTTCT kACTTgrTTT ATAATGATCG aATyCATATG  | 1380 |
|    | kTGcACGCTC ACTTTGGAAT ACCGCATGCC ATTAATACAT CTGgATAACT GgATCcATAT  | 1440 |
| 35 | TTTGgAnATA AATGaATCCa TAAGTAAATA CGTATCTTCa ATGTGTTCTG ACTTTATGTA  | 1500 |
|    | TTGGAAAAGA TGTCCCCaTA TTTTCAACAT ATCTTGATAA tACGTGTCTT TAAGTTTCCT  | 1560 |
| 40 | AAACCAACTG TAATTAAACG ATATGTTTGA TCTTGACAT CAAATGCAGT TGTATAAATC   | 1620 |
|    | TTCCCAACTT TACTACCAAT AATATGTTGA TGTTTTAGTC TTTCAAGTGA TTCTGTAATA  | 1680 |
|    | TCGATATGAT TAAAACTAAT GCGCTCTAAC TGATTTAAAT GTTCTGGTAT ACCAATAATC  | 1740 |
| 45 | AATGTATTTA TTTCGTTGCT TAGTGTGTTA TTTAATTTAA AATTCATAAT GTACCTCCTT  | 1800 |
|    | AGATTTGATA TGTTACTCAC TTCAAATTGT ACAACAATAA AGCCCTcAGT GACACTGAAG  | 1860 |
|    | GACTTTATAA ATGAATAATT TAATTTTATG TGTTTAGCTG AAACCTTTATT TAAAGCCTAG | 1920 |
| 50 | AATTTACCTT TTTTGAATGC TAAACCGATA CCACCGATTT TGAATACCGC ACGTGTATCA  | 1980 |
|    | CCAGCGATAG GTTTACCAAA TACCATACCT                                   | 2040 |

GTTGATTCAC CGTTTAAGAT GCGTTTAATG TTTTtagCAA CACTTTCACC TTGTTGCATT 2160  
 GCAATTTGTG CTGTAGTTGG TAATGGACGT TCTTCTCCAG CTGGGATAAA CGCTGAACAG 2220  
 5 TCACCAATAA CAAAAATGTT GTCGTAACCA TTGATTGTGA AATCTTGCTT TGTAACGATA 2280  
 CGTCCACGTT TAACGCCTTC AAATGATTCT TCCATTAATT TACTACCAG TACACCAGCT 2340  
 GCCCATACTG AAGTACCTGC ATTTAATTGT TGTTTTTTAC CATCTACTTC AACTACAAAA 2400  
 10 CCTTTTTTCGT TACAAGCAAC GATTGGTGTA GCAATTTTAA ATTCAACACC GCGGTCTTCT 2460  
 AAGTAGCTAA CTGCGTGGTT AACTAATTCT TCTGAGAACA TTGGTAACAT TTTAGGTGCT 2520  
 GCTTCAACAC AAGTGATTTT AACTTTATTT TGATCCACAC CATATTTGCT ACATAATTCA 2580  
 15 GGAATTCTGT CTGTTAATTC ACCTAAGAAT TCAACACCAG TGAATCCAGC ACCACCAACT 2640  
 AAGATAGATA AATCGTTATC ATCTTTTTCT TTTGATGCTG CATAGTTAGC AAATTTGTCT 2700  
 20 TCGATATGAC GTGATAATTC ACGTGCTGTG ATAACATTTT CAATTTGGAA AGCATGATCT 2760  
 TTCATACCTT CGATGCCGAA TGTTCACATA ACGAAACCTA ATGCTACTAC TAAAATATCA 2820  
 AAGTCATAAA TACCTTGATT TGTTTCTACC TTTTtagCAT CACGGTCAAT TTTTGTTACT 2880  
 25 TCTGCTTGAA CAAAGTTCAC TTTGTCTTTC TTCAAGACAC TTTCCACAGG ATATAATACA 2940  
 TCTTCATAGT TTAGTGTACC TGCTGATGCT TCATGTAACC ATGTTGCTTC ATAGTGATAT 3000  
 TCATTTTTAT TAATAAGCGT AATTTCTGCT TCTTCTGTTG ATATCGCTTT TTGCAATTGA 3060  
 30 GTTACAGTTT GTAAACCTGC ATAACCAGCA CCAAGTACAA GTACTTTTTT ACGATCTTGA 3120  
 GCCATTTAAT TnCACCTAAG CnTTCATATT TTTTAAACCA AATGCTGATA ATTAC 3175

(2) INFORMATION FOR SEQ ID NO: 314:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 702 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 314:

45 CATCATTATT AAAGATTTTC AATCAATACA gAATCACAAT ACGTACGCAT TGTGCACGAT 60  
 AAAAATACAG ATGTGTATAT TAACTATGAA CTACAAGAGC AACTAACGAA CAAAGCTTAC 120  
 ATTGGTGATC ATATTTATGT TGAAGGGATA TGGCTCGAAG TACAAGCTGA TGGTTTAAAT 180  
 50 GTATTGAGTC AGAATACAGT GGCATCGTCA TTAATTCGCT TAACACAAGA GATGCCACAT 240  
 GCACAGGCAG ATGATTACAA TACGTACCAT CGTTCGCCAA GGATTATTCA CCGTGAACCG 300

TGGCGTTCCA TTATACCGCC ATTAGTAATG ATTGCTTTAA CTGTTGTCAT CTTTTTAGTG 420  
 AGACCAATTG GTATTTATAT TTTAATGATG ATTGGTATGA GTACAGTAAC GATAGTATTT 480  
 5 GGTATTACAA CGTATTTCTC TGAAAAGAAA AAGTATAACA AAGATGTTGA AAAACGAGAG 540  
 AAAGATTACA AAGCTTATTT GGATAATAAA TCTAAAGAAA TTAATAAAGC GATTAAAGCA 600  
 CAACGTTTTA GTTTGAATTA CCATTATCCA ACGGtTGCTG AAATTAAAGA TATCGTTGAA 660  
 10 ACGAAAGCAC CAAGAATATA TGAnAAAACC ATCGGCATCA TC 702

(2) INFORMATION FOR SEQ ID NO: 315:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4121 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 315:

TATGTTCCGA CAACGAAACA AAGTGTAATT ACAAGAGCAA AGATAACTTT GAATGTTTGT 60  
 25 AAACGTCCAT CTTTACCTTC AGTTAAATGC ATGAACATTA ATAATTGArG TCCTGCTTGG 120  
 ACGAATGCAA AGCCAAAGAT AATTGTCAAC TTCGCGTGGA ATGTTAATGA CGTGTATAGT 180  
 GTTACGTAAA CTGCTAAAAG CGTTAATACG ATAGATGCGA TAAATCCTAC AGTATGTTTC 240  
 30 ATTATTGTAC TCATCCGCTA TACACCATCC CTATCATATA TACGGCAGTA AAGATGAAAA 300  
 CCCAAACAAC ATCTAAGAAG TGCCAGTATA AACTTACTAT AAATAATTTT GGCGCATTAT 360  
 ATTTGTCTAA TCCGCGTCGT TGGATTTGGA TTAATAAACA AATGGCCCAA ACGATACCTA 420  
 35 GCGATACGTG ACAACCATGC GTTCCTAATA GGATAAGAA ACTAGACCAG TAAGAACCAA 480  
 TTGTTGGGTT AACGCCTTCT GATGCATAGT GTGCGAATTC ATAAATTTTCG AATCCAACAA 540  
 40 AGACTAAACC TAAAAGTAAC GTAATGATCA TCCAAAACAT CATTAACTTT TGTTTTTCTT 600  
 GGCGCATGTA GTAAATAGCA ATACCACATG TGTAAGAACT GAATAATAAT GCAAACGTCA 660  
 TTATTAAAAC AAGAGGCAAT TCAAATAACT CAGTAGTCAT TTTACCTGCA TAATCGCCAC 720  
 45 CATGTTGCAA AGTTAATAGT GTCGCAAATA GGGTACCGAA TAACGCAAAT TCGGCTGTAA 780  
 TGAAAATCCA AAAGCCAAGC TTATTTAATT CGCCTTCATG TGTGCGTGAA TCAATAGTGT 840  
 TTGTATCATG ACTCATGACT TACAGCCTCC CTTTCTTTAA TACGCGCTTC TCTTAATCTA 900  
 50 GCTTCAGTTT CTGCAACTTC AGCAGCAGGG ATATGATATC CGTGATCGAT TTGGAAACTG 960  
 TATGCTGGAAT TACAGTTTCG 1020

|    |            |            |            |            |            |            |      |
|----|------------|------------|------------|------------|------------|------------|------|
|    | TTGTTTGGCA | TATGAATGTC | TTTGTAATTA | TGGTTGTCTA | AGTAATGACG | ACCATGTTCT | 1140 |
|    | TTCATATCAA | CAAATGTGTC | GTAAGTCATT | CAATCTGGTG | TAATGGCAAA | GTTGTATTTA | 1200 |
| 5  | GGTGAATTG  | CTGATGCAGT | AGTCCACTCT | AGAGTACGAC | CAAGGCCATC | CCAGTTATCT | 1260 |
|    | CCAGTTGCTT | CACGTGGAGA | TTTGAAGTGA | CTGTATACGA | TACTAACAAC | AAGGAATAAG | 1320 |
| 10 | AATCCGATTG | CCATTAATAA | TGCACCGATA | GTTGAAATTA | AGTTTAATAA | GAACCAACCA | 1380 |
|    | TCTGATGGCA | TATAAGTGTA | TAAACGACGT | GGCATACCAT | CTAATCCAAG | AATGAATTGT | 1440 |
|    | GGTAAGAAAC | AAACGTTAAA | TCCGATCATG | AAGAACCAGA | AGCACCATTT | GTTTAATGTT | 1500 |
| 15 | TCGTTTAATT | TGTAACCCAT | CATCTTTGGA | TACCAGAAGA | TTAAACCAGC | TAAGCAGGCA | 1560 |
|    | AATACAACAC | CAGTAACCAA | TGTATAGTGG | AAGTGAGCTA | CTAAGAAGTA | CGTATTGTGA | 1620 |
|    | TATTGATAGT | CAGCTGATGC | CATTGCTAAC | ATTACACCCG | TAACACCACC | TAAAAGGAAG | 1680 |
| 20 | TTAGGGATAA | ATGCTAATGA | GAATAGCATT | GGTGACTCAA | ATGTAATACG | TCCTTTATAT | 1740 |
|    | AATGTTAATA | ACCAGTTAAA | CAATTTTACA | CCAGTTGGAA | TACCAATCAG | CATTGTTGAA | 1800 |
|    | ATTGAGAAGA | ATGAGTTGAT | TAACGCACCA | TTACCCATTG | TGAAGAAATG | GTGAACCCAA | 1860 |
| 25 | ACTAAGAAAC | TAAGGAACGC | GATACCGGCA | GTTGCCCAT  | CCATACTTTG | ATGTCCGAAT | 1920 |
|    | AAACGCTTAC | GAGCGAATGT | CGGGATAATT | TCTGAGTAAA | TACCAAATGC | TGGAAGGATA | 1980 |
| 30 | ACGATATAAA | CTTCAGGGTG | CCCCCATACC | CAGAAGAAGT | TAGCCCAAAG | CATTGGCATA | 2040 |
|    | CCGCCATGTG | CAACTGTGAA | GAATGCTGTG | TCAAATATTC | TATCAGTTGT | CATTAATGCT | 2100 |
|    | AACGCTACTG | TTAAAGGAGG | GAAAGCAAGA | ATAACAATTA | ATGTAGTAAT | AAATGTTGTT | 2160 |
| 35 | ACTGTAAACA | TTGGCATTG  | CATAAACTTC | ATAGTTGGTG | TTTACATCT  | TAAAATTGTT | 2220 |
|    | ACAAAGAAGT | TGATACCTGT | AGCTAAGGTA | CCAAGCCCTG | AAATTTGTAT | AGCTATTAAG | 2280 |
|    | TAATAGTTAA | CACCCGGACC | AGGACTGAAT | TCACCTGCTA | GTGGCGCATA | GTTTGTCCAA | 2340 |
| 40 | CCAGCTGCTG | GTGAACCACC | AATAATAAAT | GACAGGTTGA | ATAAAATCAT | ACCTGCAAAG | 2400 |
|    | AATAGCCAGA | AACTTACGTT | GTTTAATACT | GGGAATGCAA | CATCACGTGC | TCCAATTTGT | 2460 |
|    | AATGGAACAA | CGATATTCCA | TAAACCAAAG | ATAAATGGCA | TTGCCATGAA | GATAATCATG | 2520 |
| 45 | ATTACACCAT | GTGTACTAAA | AATTTGTTA  | TAGTGGTTAG | ATTCTAAAAA | TTTGTTATCA | 2580 |
|    | GGTACTGTTA | ATTGCGCACG | AATAAGTAAC | GCATCAATAC | CACCACGGAC | GAACATTAAT | 2640 |
| 50 | ACGGCACAGA | TTAAATACAT | AATACCGATT | TTCTTATGGT | CTACAGATGT | GAACCATTCT | 2700 |
|    | TTGTAAAGAT | ATTTCCATAA | TTTAAAGTAA | GTAATTACTG | CGATTAAACC | AATAACTAAG | 2760 |
|    | AATGGGGCAC | CAATTTGTGC | CATTGTAATC | ATCAGTTTAC | CTTTAACTAG | TAATTGATCC | 2820 |

|    |   |      |
|----|---|------|
|    | TTGAAATTTT CTTCAATTTCT TTCGCATTTT TCGATTCAATC TTTCTTGAAC TCATTGTTAT | 2940 |
|    | ATGGTTCGTC ATTTCCAAGA ATCATCAACT TCATACCATG TCGTTTATAG TTCGCATTTG   | 3000 |
| 5  | TAATTTGAGC TTTACGAGCA GGTATTAATG GTTTGTCTGA TACATCTTTA AACATATTTT   | 3060 |
|    | CTTCACTAGT GAAGTTTGGG TCTTTCAATT CGAAATTGAA ACGTTTATAT GCATAGAAGA   | 3120 |
|    | TGTATTCTGG ATCGGCTGCT GGATCAACAA ACGCCATATG TGTACCATTA AATTCTAAAG   | 3180 |
| 10 | CTTTATTAGG TGTGCTTGGT AATAATTGTT TATCAAATGT ATCTTGATCT AACGTTTTCT   | 3240 |
|    | TACCTTTAAC TTCTTTCACC CATTTGTCGT AGTCTTTTTG ACTAACGGCA TTTACTTTAA   | 3300 |
|    | ATGTTTGACG TGAGAATCCT TCACCATTGA AGTTAGAGTT ACGACCTCTG AACGTACCAG   | 3360 |
| 15 | TTTGAGATGC TTCTAACGTC CAATTCATTG TCATGCCAGT CATGGCATAT TTTTGACCAC   | 3420 |
|    | CTAATTGTGG AATCCAGAAA CTTGTCATTG TATCCATAGC TTGAAGCTTA AATACAACAG   | 3480 |
|    | GACGATCTTT AGGGATTGTT AATGTATTAA CAGTCTCTAT ATGTTTCTCT GGATAAGCAA   | 3540 |
| 20 | AGAACCATTT GTATCCTGCA CTTACTGCAI ATACAACCAT TGGATCTTTC TCACTCTTCG   | 3600 |
|    | GTGGTTTTTC GTAATCGTAT AAAGTTTTAA CTGTAGGAAT AGCTAAAGCA GCAACGATTA   | 3660 |
| 25 | TGATAGGTAT TACAAACCAT ATTGTTTCAA TGATGGCATT ATGGTGCATC TTACCAGATT   | 3720 |
|    | CGGCATTCTT ATTATAACTA TACTTGTAAT TAAAAATGGC GAACATGCCA AGTACAACGA   | 3780 |
|    | AACAAATAAC AAGCATGAAG ACGATTGAAT AAAGAATCAA GAACTTCTGA CTACTTGCTA   | 3840 |
| 30 | CTGGCCCTTT TCGGTTGAAA ATTTCTATAT TTGAACAACC ACTAAGTAAA ATTAGTGTGC   | 3900 |
|    | CAAATAATAG AAGCAAAGAC TTAAATTTTG ACACTTTTTT GACCTCCTAA TACTACAAAT   | 3960 |
|    | GTAGGGCTTA ACATTAATTT TAAGTTATTA CACAATATTT ACAAGGGCTT ATGGGAAAAA   | 4020 |
| 35 | AATTAATAAA ATTGTATCAA AAATGTTGAT AAATCAAGGT GTGACGTGGG TTCACACATT   | 4080 |
|    | TGTTAAAATT ATGTGTACAT TTTGTGACTA ATAGCGTTTT T                       | 4121 |

(2) INFORMATION FOR SEQ ID NO: 316:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 9310 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(x1) SEQUENCE DESCRIPTION: SEQ ID NO: 316:

|    |   |     |
|----|---|-----|
| 50 | CGAGTGAGTA CAAACATATT TTTATTTGCA AGGGGTAAAT GGCATATAAC TATCTTTTTT | 60  |
|    | ATGTAAGCTG GTATAAAATT TATACTAATA GGAGGGATAG TATGAATATA GTAGGGCATC | 120 |

|    |             |            |             |            |            |            |      |
|----|-------------|------------|-------------|------------|------------|------------|------|
|    | TTGGATTACG  | ATTAGTTGAA | AAGTCGGTTA  | ATCAAGACAA | TCCTTCAATG | TATCATTTGT | 240  |
|    | TTTATGGGGA  | CGAAgTAGGT | ACAGCCGGAA  | CAATTTTAAG | CTTTTTTGAA | ATTCCCAATG | 300  |
| 5  | CGGGTCATAA  | GCAGCCAGGT | ACTGAAACGA  | TTTATCGATT | TTCATTATTA | GTACCAAATC | 360  |
|    | AAGCGGCACT  | TCATTATTTT | GAAAAACGTC  | TTGAGAATAA | TGGTATTAAG | TCTGAACGTT | 420  |
|    | TGTACTATCT  | TGGACAAGAA | GGTGTGTCT   | TTAAAGATGA | AGACGACTTA | GAAATCATAT | 480  |
| 10 | TGCTTGTTAA  | TGATAGTTTT | GAAGTACCAC  | ATCAATGGCA | ACATAACGCT | TATAGTGAAA | 540  |
|    | TACCTCAAGC  | ATATCAAATT | TTAGGAATAG  | GGCCAGTCGA | ATTAAGAGTT | AGAAATGCAG | 600  |
|    | CGCGTACGGT  | AGAATTTTTG | GAAAATGTCT  | TAGGTTATCG | CAAAGAGAT  | AATAAATCAT | 660  |
| 15 | TCGATGTGCT  | GACATTAGCA | CCACAAGGTT  | TATATTCGGA | TTTTGTAGTT | ATTGAGCAAC | 720  |
|    | AGGGACAACG  | TGAAAGACCT | GGACGAGGTT  | ATATCCATCA | TATTGCAGTT | AATACACCAC | 780  |
| 20 | AAATGAGTGA  | CTTAGATGCA | ATTTACAAGA  | AATTACAACA | ACAACCACAA | AGTAATTCAG | 840  |
|    | GTATAATTGA  | TCGCTATTTT | TTTAAATCAT  | TATACTATCG | CCATAATTCA | ATTATGTATG | 900  |
|    | AATTTGCGAC  | TGAAGCGCCT | GGATTTACTA  | TTGATACACC | TGTTGAACAA | TTAGGAAGTC | 960  |
| 25 | AATTGAACTT  | GCCTGACTTT | TTAGAAGCAG  | AACGTGAACA | AATTGAAAGT | AAGTTACACG | 1020 |
|    | AAATATAAAG  | GAGAATGTTT | AATGGCCAAA  | TTAGAAATGA | ATAAAAATAC | GCCTCTTGAG | 1080 |
|    | TTTGGTTTGT  | ATTCTTAGG  | TGATCATTTA  | TTGAATCCAT | TGAAAGGTGA | AAAAGTTAGT | 1140 |
| 30 | TATGAGCAAC  | GTATTAATGA | AATTATTGAA  | GCAAGTAAAT | TAGCAGATGA | AGCAGGTATT | 1200 |
|    | GATGTTTTTG  | CAGTTGGTGA | AAGTCATCAG  | GAGCATTTTA | CAACACAGGC | ACATACGGTT | 1260 |
|    | GTGTTAGGTG  | CAATTGCCCA | AGCGACAAAAG | CATATTAAAG | TTTCAAGTTC | TTCAACGATT | 1320 |
| 35 | ATTAGTGCAc  | AGATCCTGTA | AGAGTATTTG  | AAGACTTCGC | GACATTAGAT | TTGATTTCTC | 1380 |
|    | ATGGTAGAGC  | CGAAATTGTA | GCTGGCAGAG  | CATCAAGAAC | AGGTATTTTT | GACTTGTTTG | 1440 |
| 40 | GCTATGATTT  | AAAAGACTAT | GATGAATTGT  | TTGAAGAAAA | ATTAGGTTTA | CTTTTAGAGT | 1500 |
|    | TAAATAAAAC  | TGAGCGTATT | ACTTGCTCTG  | GAAAATATCG | TCCAGAACTT | AGAAATATGA | 1560 |
|    | AAATATTCCC  | AAGACCAATC | GATAATATAT  | TGCCAATATG | GCGTGCTGTT | GGTGGTCCAC | 1620 |
| 45 | CTGCAAGTGC  | TATTAAAGCG | GGAAAACAAG  | GTGTGCCAAT | GATGATTACA | ACCCTTGGTG | 1680 |
|    | GCCCAGCAAT  | GAACTTTAAA | GGTTCCTATAG | ATGCTTATCG | TCAAGCGGCA | ACTGAAGCAG | 1740 |
|    | GTTTCGATgc  | TTGCCTAAG  | TCTTTACCAG  | TAAGTACAGC | GAGTCTGTTT | TATACAGCTG | 1800 |
| 50 | AAACAACCTCA | GGATGCTATG | AGAGAATTTT  | ATCCACATTT | GAATACAGGG | ATGTCATTTA | 1860 |
|    | TTCTGTGGTGT | TGGTTATCCG | AAACAGCAAT  | TTGCTAATTC | GTCAGATTAT | CGAGAAGCGC | 1920 |

|    |            |            |            |             |            |             |      |
|----|------------|------------|------------|-------------|------------|-------------|------|
|    | GTCATCAACG | TTTTATGGCA | CAGCTTGATT | TTGGCGGTGT  | GCCATTTGAA | AATGTTATGA  | 2040 |
|    | AGAATATTGA | GTAAATTGGC | AACGACATTA | TACCGGCGAT  | TAAAAAGCAT | TTATCAAAAT  | 2100 |
| 5  | AGGAGGGGCG | TCATCATGAA | TATTGTATTA | TTGTCAGGTT  | CCACAGTAGG | TTCTAAAACG  | 2160 |
|    | AGAATTGCTA | TGGATGATTT | AAAAAATGAA | CTAGAAGTCA  | TCAATGAGGG | ACATCAAATA  | 2220 |
|    | GAGTTGATGG | ATTTACGAGA | ACTTGAATTA | GAATTTAGCG  | TTGGAAAGAA | TTATCTAGAT  | 2280 |
| 10 | ACTACAGGAG | ATGTATATAA | ATTAACGACG | TCGTTAATGC  | AGGCTGATGT | GATTTTTTATT | 2340 |
|    | GGTTTTCCAA | TTTTTCAAGC | TTCCATCCCT | GGTGCTTTGA  | AAAATGTGTT | TGATCTACTT  | 2400 |
|    | CCAGTCAATG | CGTTTCGTGA | CAAGGTAATA | GGACTTG TAG | CGACAGCAGG | TTCTAGTAAA  | 2460 |
| 15 | CATTATTTAA | TTCTGAAAT  | GCATTTAAAA | CCAATATTGA  | GTTACATGAA | AGCACATACG  | 2520 |
|    | ATGCAAACGT | ATGTATTTAT | TGAAGAGAAA | GATTTTTTCAA | ATCAACAAAT | TGTCAATGAT  | 2580 |
|    | GATGTTGTAT | TTCGGTTAAA | AGCGTTGGCA | CAATCCACAA  | TGCGAACTGC | CAAAGTACAA  | 2640 |
| 20 | CAACAAGTGT | TTGAAGAAGA | AAACAACCAA | TACGACTTTT  | AAAGTATAAA | AATAAGACGC  | 2700 |
|    | TCGGCACACT | AAATTTGTAA | GTGTTTGAGC | GTCTTTTCAT  | ATTAECTATA | TAGCCAAATGA | 2760 |
| 25 | ACGACGATAA | AGGCAAGTGA | TGACAAGCAT | ATTGAGGTAA  | TAATGATTGT | CATAAGCGGT  | 2820 |
|    | TTAAGTGCGC | GATTTTTAAG | ATCTTTAAAT | GCAACATTTA  | ACCCTAAAGC | AACCATGGCC  | 2880 |
|    | ATTAATAAGC | AAATTGTTGA | TACAGTATTT | AAAATATTTA  | GCAATGCTGA | CGGAATAGTT  | 2940 |
| 30 | ACATATGTAT | TCACTAAGGC | CATAATGACA | AATCCAATTA  | AAAAGTATGG | AATGCTTATT  | 3000 |
|    | CGACCCCTGC | TAGATGATTC | TGATGAACGG | AAACGCATAA  | TTAAAATAAG | TACGATGGTT  | 3060 |
|    | AATGGAATCA | GTAAGAATAC | TCTACCAAGT | TTACCAAGAA  | GTGCAATTTT | AAGTGCATCA  | 3120 |
| 35 | CTACCACCAA | AGCCACCAGC | TAAGACAACG | TGTGCAATTT  | CATGAAGACT | AACACCAGAC  | 3180 |
|    | CAAGCGCCAT | AAACATTTGT | CGTCATTGAA | AAGATAGCGT  | AGATAGCTGT | ATATATAAGT  | 3240 |
|    | GAAAATATCG | TACCAATCAA | TGCGATGATA | CCGATACTAA  | TAGCTGTATC | CTTTTCACGT  | 3300 |
| 40 | GATTTGAATA | TTGGAGCGAC | TGCGGCAATA | GCAGCAGCAC  | CACAAACGCC | TGTGCCGACA  | 3360 |
|    | CCTAGTAATA | ATGCGATGTT | TTTGTACCA  | TGCAACAGTT  | TGTTGACAAA | GAGCATCATT  | 3420 |
| 45 | ACAATACTGA | AAATAACGAC | ACCTACATCG | ATGGCTAATA  | GTTTACTACC | TTGACCGATA  | 3480 |
|    | ATATCGAATA | TATTGAGTTT | AAGTCCATAT | AGGATGATTG  | CAAATCTTAA | TAAATATTTA  | 3540 |
|    | GATGAAAACG | TAATACCTGA | GCTATATTGT | TCAGGATATC  | CTCTAAAGTG | ACGATATAGA  | 3600 |
| 50 | ATAGCGATTA | ATATCGCGAT | AGTTAATGCG | CCAACCTTAT  | CTAGGATTGG | CAATTTAGCT  | 3660 |
|    | GCTAAAAAGC | TAAATAATGC | GACTATAAAT | GTTAGTGATA  | GCCCAATCAT | AAAATGCTTA  | 3720 |

|    |            |             |            |            |            |             |      |
|----|------------|-------------|------------|------------|------------|-------------|------|
|    | ATTTTAAAT  | ATAAATTGG   | AATGAATAAT | AAAGTAGTGA | TTAAATTAAG | TTGTGTGATA  | 3840 |
|    | GGAAACTTGG | ACATCAATCA  | AAGTAATAGG | CACTACAACG | CTTATTGGCG | GGGCCCCAAC  | 3900 |
| 5  | AAAGAAGCTG | ACGAAAAGTC  | agCTTGcAAT | AATGTGCAAG | TTGGGGATGG | GCCCCAACAT  | 3960 |
|    | AGAGAAATTG | GGTCCGTAAT  | TTCTACAGAC | AATGCAAGTT | GGCGGGGCCC | CAACATAGAG  | 4020 |
|    | AATTTGAAA  | AGAAATTCTA  | CAAGCAATGC | AAGTTGGGGA | AGGACAACAA | ATTTAAGATA  | 4080 |
| 10 | CAATGCGTAA | CATTAATATG  | TTATTATAAT | GATAATTTAC | AGAATTATAT | GAAAAATGAA  | 4140 |
|    | TGAGGATGTG | ATGGTATGTT  | TGGAATGAAA | GTGAATGAAC | AAATAACATT | AAAAATTTTA  | 4200 |
|    | GAAGCTCATG | ACACAGAAGC  | GCTTTTCAAT | TTAGTCAATC | GTTCAAGAAA | TTCACTTAGG  | 4260 |
| 15 | GAATGGTTAC | CTTGGGTAGA  | TGCAACTGAG | CAACCATCAG | ATACGCGTGC | ATTTATTAAA  | 4320 |
|    | AGAGGACTTT | TGCAATTTGC  | TGATGGTAAT | GGATTTCACT | GTGGCATTG  | GTATGAAGGA  | 4380 |
| 20 | ACGCTAGTTG | GTGTCATCGG  | TTTACATGAA | ATTAATCACA | TGCACAGAAA | AACTTCATTA  | 4440 |
|    | GGGTACTATT | TAGATAAAGA  | ATTTGAGGGT | CATGGGATTA | TGACACAAGC | AGTTGAGGCA  | 4500 |
|    | TTGATAAAGT | ATTGTTTCGA  | AGAGCTTGAC | TTAAACCGAA | TTGAGATTAG | TGCCGCAGTT  | 4560 |
| 25 | AATAATGAAA | AAAGCCGGGC  | TATTCCTGAA | AGGCTGGGAT | TTACTAGAGA | AGGTATGTTA  | 4620 |
|    | CGTGACAATG | AATTACTAAA  | TGGTATTTAT | TCATCGAGTT | ACATCTATAG | TTTATTAAAA  | 4680 |
|    | TCAGAATACG | ACCAAAAAATG | ACAAATTAGA | CTTACAAAAG | AGTGATGACA | TTTAAAAATGG | 4740 |
| 30 | CAGCGCTCTT | TTATTTAATT  | TTTGAAAATA | AAAGGTTGTT | GACAGTATTA | TTTTATAACA  | 4800 |
|    | ATATAATGAT | TTTGATAATT  | ATTATCAACT | AGATGATGTT | TATGGGAGGA | TGCTTTAAAA  | 4860 |
|    | CAGCCGTTTT | AAGTGTAATG  | TATTATTTTA | GCGTGTAGGG | AATGCGAAAA | TAATATTTAT  | 4920 |
| 35 | AAGAACACAT | CTATGGGGAT  | AATAGAATTT | CTATAATGAG | GTGTCAAAAT | GAAAAAGTTA  | 4980 |
|    | ACAACGCTAT | TATTAGCATC  | AACGTTATTA | ATTGCTGCAT | GTGGGAACGA | CGATAGTAAG  | 5040 |
| 40 | AAGGATGATT | CAAAGACATC  | GAAAAAAGAT | GATGGTGTTA | AAGCAGAATT | AAAACAAGCA  | 5100 |
|    | ACAAAAGCAT | ATGATAAATA  | TACTGATGAA | CAGTTAAATG | AATTTTTTAA | AGGTACAGAA  | 5160 |
|    | AAATTTGTTA | AAGCGATTGA  | AAATAATGAT | ATGGCCCAAG | CAAAAGCGTT | ATATCCAAAA  | 5220 |
| 45 | GTTTCGTATG | ATTATGAACG  | CTCTGAACCA | GTTGCAGAAG | CATTTGGAGA | TTTAGATCCT  | 5280 |
|    | AAAATTGATG | CACGTCTTGC  | AGATATGAAA | GAAGAGAAAA | AGGAAAAAGA | ATGGTCAGGA  | 5340 |
|    | TATCATAAGA | TTGAAAAAGC  | ATTATACGAA | GATAAGAAAA | TTGATGATGT | GACTAAAAAA  | 5400 |
| 50 | GATGCACAAC | AATTATTGAA  | AGATGCAAAA | GAATTGCATG | CCAAAGCTGA | TACATTAGAT  | 5460 |
|    | ATCACACCAA | AATTAATGTT  | ACAAGGTTCT | GTTGACCTAT | TAAATGAAGT | TGCAACTTCT  | 5520 |

|    |            |            |            |            |             |            |      |
|----|------------|------------|------------|------------|-------------|------------|------|
|    | GTTGAAGGCG | CACAAAAAAT | TTATGACTTA | TTTAAACCTA | TTTtagagaa  | AAAAGATAAA | 5640 |
|    | AAATTAAGTG | ATGATATCCA | AATGAACTTC | GATAAAGTGA | ATCAATTATT  | GGATAAATAT | 5700 |
| 5  | AAAGATAACA | ACGGCGGTTA | TGAGTCATTT | GAAAAAGTAT | CGAAGAAAGA  | CCGTAAAGCA | 5760 |
|    | TTTGCGGATG | CTGTTAATGC | ATTAGGAGAG | CCACTAAGTA | AAATGGCTGT  | GATTACTGAA | 5820 |
|    | TGACAAATTA | TGAACAAGTT | AACGATAGTA | CGCAATTTTC | AAGACGTACA  | TTTTTGAAAA | 5880 |
| 10 | TGTTAGGTAT | TGGCGGTGCC | GGTGTTGCAA | TTGGCGCAAG | TGGTGTGGT   | AGCATGTGGT | 5940 |
|    | CTTTCAAATC | AATGTTCAAT | ACACCAGAAG | ATCCGGAAAA | AGATGCGTAT  | GAATTTTATG | 6000 |
|    | GTAAAGTGCA | ACCAGGCATT | ACCACACCCA | CGCAAAAAAC | ATGCAATTTTC | GTTGCGTTAG | 6060 |
| 15 | ATTTGAAGTC | AAAAGATAGA | GATGCAATTA | AGGCAATGTT | TAAAAAGTGG  | ACGGTTATGG | 6120 |
|    | CTGATCGTAT | GATGGATGGT | GATACAGTTG | GCAAGCCGAG | TAACAATCCT  | TTAATGCCAC | 6180 |
|    | CAGTAGATAC | CGGTGAATCG | ATAGGATTAG | GTGCAAGCAA | GTTAACGATT  | ACCTTTGGGA | 6240 |
| 20 | TTAGTAAGTC | TTTGATGAAG | AAAATTGGGT | TATCTAGTAA | AATTCGGAT   | GCCTTTAAAG | 6300 |
|    | ATTTACCGCA | TTTCCGAAT  | GATCAGTTAA | TAGACGATTA | CAGCGATGGT  | GATATTATGA | 6360 |
| 25 | TTCAAGCATG | CTCAAATGAT | TCGCAAGTAT | CCTTTCATGC | GGTTCATAAT  | TTAGTTCGTC | 6420 |
|    | CATTTGAGA  | TATTGTTAAG | GTACGTTGGG | CGCAATCTGG | TTTTATCTCT  | GCTAAAGGTA | 6480 |
|    | AGGAAACACC | TAGAAATTTA | ATGGCATTTA | AAGATGGAAC | AATTAATCCT  | AGGAAGAATA | 6540 |
| 30 | ATCAACTTAA | AGATTATGTG | TTTATTGATG | ACGGATGGGC | GAAACATGGA  | ACTTATTGCG | 6600 |
|    | TTGTCAGACG | TATTCAAATA | CACATTGAAA | CGTGGGATCG | TACTGCGCTG  | GAAGAACAAG | 6660 |
|    | AGGCTACATT | TGGTCGGAAA | CGACATAGTG | GTGCACCGTT | AACAGGTGGG  | AAAGAGTTTG | 6720 |
| 35 | ATGAAATTGA | CTTAAAAGCG | AAAGATAGTC | ATGGCGAGTA | TATTATTGAT  | AAAGATGCCC | 6780 |
|    | ATACGAGGCT | AGCGAAAGAA | GCAAATACGT | CAATTTTACG | TAGAGCCTTT  | AATTATGTGG | 6840 |
|    | ATGGTACGGA | TGACCGCACA | GGTAACTTCG | AAACAGGCTT | ACTTTTTATT  | GCTTTTCAAA | 6900 |
| 40 | AAGCGACAAA | ACAATTTATC | GATATACAAA | ATAATTTAGG | TAGTAATGAT  | AAATTAAATG | 6960 |
|    | AATATATTAC | ACATAGAGGT | TCTGCTTCAT | TTTTAGTATT | ACCAGGTGTT  | AGTAAGGGAG | 7020 |
| 45 | GATACCTTGG | TGAAACATTA | TTTGACTAAA | TTTGTAGCAA | TGCTAATAAC  | TGCTGCTATG | 7080 |
|    | GTGTGTAGCT | TTGGGTTACT | GAAAAGTCAG | GCAGCAGAAC | AACAAAGTAT  | TAGTGATGTA | 7140 |
|    | TATAGTGTGA | TAACGGATGC | GAAATCTGCA | CTTCTAATA  | ATTCGATATC  | GAATGACAAT | 7200 |
| 50 | AAGCAGAAAG | CAATTGAGCA | AGTGGTAAGT | GCAGTTAAGA | AATTATCGCT  | TGAAGATAAT | 7260 |
|    | AGTGAAAGTA | ATGCTGTCAA | ATCAGATGTG | AGAAAGCTTG | AAGATGCAAA  | AGCGAATGAT | 7320 |

|    |             |            |            |            |            |            |      |
|----|-------------|------------|------------|------------|------------|------------|------|
|    | GCTAGTAAAG  | ATGCGGGTTC | TAAAATTAAA | CTATTGCAAC | AGCAAGTCGA | TGCTAAAGAT | 7440 |
|    | GCTGCGATGA  | CAAAAGCGAT | TAAAGATAAA | AATAAGCGG  | AATTAGAATC | TTTGAACAAT | 7500 |
| 5  | AGTTTGAATC  | AGATTGGAC  | AAGTAATGAA | ACAGTGATTG | GCAATTATGA | CGCAAATCAA | 7560 |
|    | TATGGACAAA  | TTGAAGTCGC | ATTATTACAA | CTTAGAATTG | CAATTCATAA | GTCACCATTA | 7620 |
|    | GATACGGCAA  | AAGTGTCA   | TGCTTGGACA | ACTTTTAAAT | CAAATATTGA | TCATGTCGAT | 7680 |
| 10 | AAAAAAAGTA  | ATACGTCTGC | AAATGATCAA | TACCATGTAT | CACAATTAAA | TGATGCGTTA | 7740 |
|    | GAGAAGGCGA  | TTAAAGCTAT | CGACGACAAT | CAATTGTGCG | ATGCTGcaTg | TGCGCTTACA | 7800 |
|    | CATTTTATAG  | AACTTGGCC  | GATGTTGAA  | GGTCAAATTC | AACTAAAGA  | CGGTGCTTTG | 7860 |
| 15 | TATACGAAAA  | TTGAAGATAA | AATACCATAT | TATCAAAGTG | TATTAGACGA | ACATAATAAA | 7920 |
|    | GCACATGTGA  | AAGATGGTTT | AGTAGATTTA | AATAACCAAA | TTAAAGAGGT | TGTTGGCCAT | 7980 |
|    | AGTTATAGCT  | TCGTCGATGT | GATGATTATC | TTTTTACGTG | AAGGGCTAGA | AGTGTGTGTA | 8040 |
| 20 | ATTGTAATGA  | CATTGACTAC | CATGACGCGT | AATGTAAAAG | ATAAGAAAGG | GACTGCAAGT | 8100 |
|    | GTGATTGGTG  | GTGCAATTGC | CGGACTTGTA | CTGAGTATTA | TCTTAGCAAT | TACGTTTGTA | 8160 |
|    | GAAACTTTAG  | GGAATAGTGG | CATTCTTCGT | GAAAGTATGG | AAGCGGGATT | AGGTATCGTT | 8220 |
| 25 | GCGGTCATAT  | TAATGTTTAT | CGTTGGTGTT | TGGATGCACA | AACGTTCAAA | TGCAAAACGT | 8280 |
|    | TGGAATGACA  | TGATTAAAAA | TATGTATGCT | AATGCGATTA | GTAATGGTAA | TTTGGTATTG | 8340 |
| 30 | TTAGCGACGA  | TTGGTTTAAT | ATCTGTGTTG | CGTGAAGGTG | TCGAGGTTAT | CATTTTCTAT | 8400 |
|    | ATGGGGATGA  | TAGGTGAGCT | AGCGACCAAA | GATTTTATTA | TTGGTATTGC | TTTAGCTATC | 8460 |
|    | GTTATTTTAA  | TCATCTTTC  | ATTATTATTT | AGATTTATAG | TTAAATTAAT | ACCTATTTTC | 8520 |
| 35 | TATATATTTA  | GAGTGTGTC  | GATCTTTATT | TTTATTATGG | GATTCAAAAT | GCTTGGCGTA | 8580 |
|    | AGTATTCAAA  | AGTTACAATT | ATTAGGTGCG | ATGCCAAGAC | ATGTTATTGA | AGGATTCCCA | 8640 |
|    | ACGATTAACT  | GGTTGGGCTT | TTATCCAAGT | TATGAACCAT | TGATAGCACA | AGGTGCTTAT | 8700 |
| 40 | ATTATGGTAG  | TTGCTATCTT | AATCTTTAAA | TTTAAAAAAT | AAAAAACAGG | CCGAGTGCCT | 8760 |
|    | GTTTTTTTTG  | TTGCTATATT | GGAAATATTC | GGTATTGCAG | TATAACGATA | ATCACAGCAT | 8820 |
|    | TGATTTCGTAT | AAGGTTAATG | TGTTGGCGGT | TTGCCTCGGC | ATGTGAACTT | AACGATGAAC | 8880 |
| 45 | ATACTGAACT  | CAAAGAGCAA | TATGAGTGGC | AATGTGAGTA | ATATATTTAA | TGTTAAATCG | 8940 |
|    | GGTGGTGCAA  | TGATACTTGC | TAATACAAAG | CAAGCGAAAT | AAATATATTT | ACGrTAATGT | 9000 |
| 50 | TTCAATGATG  | TGGTATCTAT | AAGACCGAAT | TTTGCAAGAC | CCATAAATAA | TATTGGTAAT | 9060 |
|    | TGAAATAGAA  | GACCAAATGT | GAATAACCAA | CGTATGAGTT | CAATCAAATA | TGCTTTAAAG | 9120 |

GGAAAGCCAA CATAAAATGC AAAAGCGACG CCAGCACAGA ATAATAACAC GCTGAAAAAA 9240  
 CTATATTTAT AAATAAATTG ACGTTCATTA TTATGTAATC CAGGTGCAAT GAATGCCAC 9300  
 5 AATTGATAAA 9310

(2) INFORMATION FOR SEQ ID NO: 317:

(1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3458 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 317:

ATTAGTATTA CACACTAATG TAAATAGATT GGTGGAGAA GAGATATTTG CTAATAAGTG 60  
 CCTTGCTAAT AATGATGTTT AAATTATGAA TTCAATAAAA AAATTAATTG AAGCTGAGTT 120  
 ATTAACAACG ACTAATGATT TTGAAGTTAG TATATATAAA AAGACAAGAC CTGAATTACA 180  
 AAGTATTTTA AAAAGTTTTG GTATAAAAAC AACAGGTAAT AAACCTGACT TAATTAAACG 240  
 TATTGACGAC AATTTTCATA TTATTAATAA CTTAGATTTA CCATATGTAT ATATACCAAT 300  
 TAAGAAAGGA GAAGAAATTT TAAAGAAAAC AGAGTACTTA ACCTCTTTTA TACAAAGTTA 360  
 TGGTGAAATT TCTCTTGAGC GTGCTTATTA TTTGGTTGAA AACTATATAG ATGAAAATTG 420  
 CGATGATAAA GTTGCAGAAA TATACAAGTT TGAATTTCAA AGAAAATATG ACAATGGCGA 480  
 GTTTGATTTT AATCATGGAT ATAATTTTGA ATTGAATATG TTGATAGATC ACTATAAAAG 540  
 AGATGTAAAA GACTACGATA ATGCCAGAAA GTATTCAAAT ATTTATCTTT ACTTTGGTTT 600  
 GAGAGATTTT TTAATAAAAT TAATGAGTAA TTATTCATAT TACGATAgTA AAGGGAATAT 660  
 AGATTTGAAC GAAATACAAA ACGATCTGAA TAGATTTATC AACTCTAGCG CTTCTGGTAT 720  
 GTACGAGCGA TTAATATATA ATGAAAATTT ATCCAATAAT ATTATGTTTG AATTATTTAA 780  
 AAAGGACACA CAAGATTATA GTGATTTGGA AGAACAATTG ATTGAAAAGT TCATAAACTA 840  
 TGTAGTGTCT AATGTAAAAA AAGAAAGTAG GAGTAATACT CTTATAGAGT TATCAAAAAT 900  
 TTTAGAGAAC GGATATACAA TTGATAAAGA AGAATTTAAA AAAGAAGATG ATTATCTTTC 960  
 TAAGTACATA TTTACTGACA TAGATTATTT GAAAAAGTTA GAATCAAAAA TAAACGTTGC 1020  
 TATTGATATT CGAAGTGGAG AAATTCATTT GGTATTAGAT GATGATAGCC TTGATATATT 1080  
 AATACAAAAT CAAAATACG GCAATGAGTT TTGAGTCATA ACTAAATATA ATATGTTGAA 1140  
 GAGAGGTTTT ATTTAAATGG CTAAAATTGG TTATGATCGT GTATCAACGA AAGATTAATA 1200

|    |             |             |            |             |            |             |      |
|----|-------------|-------------|------------|-------------|------------|-------------|------|
|    | AACGTACAGA  | GCTTGTTAAG  | TGTTTAGATT | ATTTACGAGA  | GAGCGACACA | TTAGTTGTCT  | 1320 |
|    | ATCAACTTGA  | TCGGTTAGGT  | AGAACGACAA | AAC TATTaAT | TGAATTaTCA | CAATGATTCCG | 1380 |
| 5  | ATGATAACGG  | AATTGACTTA  | CAAATTAGTA | ACATGAACAT  | TTCAACGAAA | GACACAATGG  | 1440 |
|    | GCAAAATGTT  | TTTTACGATG  | ATGAGTGCAT | TTTTCaGGAT  | TAGAAGTTAA | TTTACTATGT  | 1500 |
|    | GAGTGTATAA  | AATAGACTTA  | GCAGCAACAA | GAGCGAGAGG  | CCGAAAAAGC | GGGCGCCCCT  | 1560 |
| 10 | CTTTACCAGA  | GAATAAAAAA  | TGAGAAATTA | AATTTTTTATA | TGATGAACAA | ACGATAACAG  | 1620 |
|    | GGGAAGAAAT  | AGCTAGTTAG  | ACAAGGGTAT | GTCACTCAAC  | TGTTTATCGA | GTTGATTAAG  | 1680 |
| 15 | AAATGAAAAA  | ACTTATACTA  | TGAATTACTG | TTTAAAAGTG  | TGCATGTTAT | AATATTTATT  | 1740 |
|    | GAGCAAGTTG  | GATAGATGGT  | GGCTAATCTC | TTAATAAAGG  | GGTGATGCCT | ATGGTTATAG  | 1800 |
|    | TTGTTACTCC  | TAGnAAAGGA  | CTAGCATGTC | TGATTTTGAA  | ATGCTTATGG | TTGTATTAAAC | 1860 |
| 20 | AATCATTGGT  | TTAGTATTGA  | TTAGTACTCA | AGACCATAAA  | AAATAaCCTT | CTATTCGCTT  | 1920 |
|    | TGACCGGCAT  | TTTTGAAGGC  | TATTTTTTAA | TAAAATATAA  | GGTCACCGTC | TTTTTAACGG  | 1980 |
|    | GCTCATTAGG  | GTAACATGTT  | TCCGAGTGTT | GCCCTTTTTG  | TGTTTCAAGA | GTTAATGATT  | 2040 |
| 25 | TTCATCTTTT  | GCTTCTACTT  | GCTACAAATA | TATTTTAAAC  | CATTTTTCTT | ATGAATTGTA  | 2100 |
|    | GTTCTGAACA  | TAATCAGAAT  | TAATAAAACC | AAC TTTCCAT | ACAGCAGAAA | ATACAATTAA  | 2160 |
|    | AAGTATAGAA  | TGTAATCAGC  | AATTATATAA | AAAGTATTGG  | AGACCTCTTC | ATATATAGAT  | 2220 |
| 30 | AATTCACTTA  | GTTATTTTAG  | AAAGAAGCCC | CTAaCAACTA  | AAGTTGAAAA | ATAGAGGAAC  | 2280 |
|    | ACAGTTgGAT  | TACGCATCAA  | CTGCATaAGg | CCCCTAAmAA  | CTAAAGTTGT | AAGGGGCyCT  | 2340 |
|    | AAAATTTATT  | TTGGTTGATT  | GTCTTCTGGT | TTATCTGAAG  | TCATTGTTTT | TGTTGTATTA  | 2400 |
| 35 | TCATTTAATG  | AATCTGTGTC  | TTTTTCTGTT | TTTGTTCAA   | CAGATGTTGT | CAC TTTATCA | 2460 |
|    | TTTTCTACTT  | TTGTATTTTT  | TGGTTCAGTG | ACAAC TTTT  | TATTCCTGTC | AGCTGTTTTT  | 2520 |
| 40 | ACTTTATCTT  | TAGTAATTTT  | TTGACCACGT | TTTAAGTAAT  | ATTGAACGAT | ACCCATTAAA  | 2580 |
|    | ATGATTGCAT  | GAATAACAAC  | GAATAAAATA | ATTGTCATTA  | CTGTATAAAC | TCTTATGATA  | 2640 |
|    | TTTTCTGCAA  | CAC TTTGAGA | GAGTGATTGC | GTATTAAATG  | AAATCAAGTA | ACCAACAGGT  | 2700 |
| 45 | GTTTTTAAATA | AAATAATAAT  | TAAGTTTAAT | AATAGTATTC  | CAATGAAAAA | TTTGAAAAAT  | 2760 |
|    | GTTTTTTGAC  | CATTTTTTCAT | TGCTTTAAAT | CCATTAGCTA  | AGTGTGTTTT | TACTTTATCG  | 2820 |
|    | TTAGTTGATT  | CaACGAAACT  | AGTCaTAAAG | TTGAAAATAG  | GTATTAACAA | TAACCAAGTA  | 2880 |
| 50 | ATAATTGCTT  | TAATCAATAA  | AACAACAATG | ATTATGATGC  | TTTGAGTTGT | AATAGCAATA  | 2940 |
|    | CCAATCAGGT  | GTGTACTATC  | TGCATATGAT | GATTGTACTG  | AATTCATAAT | CA TTTCTGAT | 3000 |

ATAGATACAA GACCGATCAG AACGCTCTTT AAATAATTAC CTTTTTTAAA TGCAATAAAT 3120  
 AAATCGGTAA ATTTTACTTT TTCATGACTC ATTGCTCGTT TCATAACATT TGTAATTCGG 3180  
 5 ATAAAAATTT GAACTAAAAC AAACAGTGAA ACTACAGCTG CTATAAGTAA TACAGCGATA 3240  
 ACTTTTAAAT ATGCATCTAC TGGTGGTTTT TGCCCAAATT GTGAATAAAT TGCAATAGTT 3300  
 TGTGCATACT TAGCAAGCTG GAAATTAGCA AGTAAATATA CAACTGCAAT TACAGCAAAT 3360  
 10 GCTATAAGTG CATATATCAA TGTTATTAAT AATTGTGGTT TAGCATTTTT AAATGCTGAT 3420  
 TTAAAGTAAG TAAACAAAGT GGTGCCTCCT TTTCTTCA 3458

(2) INFORMATION FOR SEQ ID NO: 318:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 695 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 318:

25 GCTTGCAAGA TGCTTTCATT AAAGACAAAG TCATCGATAT TATGAATATG TTCCAAAATC 60  
 AACTGATAT CACTTATACG TTGAATAAGT CTCATGCACA TATTATATGT ACGCCAGAA 120  
 TATTGCTAA ATTGTTACAT ACGATTGCAA CTAGAAATAT CGACATTCTA TCTGCCAATT 180  
 30 ATAGATCGTC ATCTATGAGC AAAGCTCGTA TATCATAATA AAAGACACAT CTATACGATG 240  
 ATCATTTACA ATGATTGCGT ATAGTGATGT GTCTTTTTTT GTATTATTTA TCTTCGGACG 300  
 ATTGATCCTC AACCATTTGT TCAAATGCTT CACGAACTTG TGGTACTGTC ATACCTACTA 360  
 35 CAACTTGGAT ACTCTTACCA CTCTTTACTA ATCCGTGTGC CATTTGTTGA TGCGTGAAAT 420  
 ATTCCGTATC TGCAACTTTA CTTTCATCAT AAACAGTTAA GCGTAATCTT GTTGACAGT 480  
 TAGTAACATC TTTGATATTT TCTTTGCCGC CTAAACCGTC GAGGTAATAT GCAGCTTTGT 540  
 40 CTTCGTATTC ATTACCAGAT GAAGCACGTT TAGAATCTAC GCTATCACCT TTTTATTTT 600  
 TGTAATCTTG CTTAGAAAAT AATTAACTT CCTCTTCTGT TTyCTTACGT CCAGGTAATG 660  
 45 GAATATCAAA TTyCAAAATT AAGAATCTGA ATAAG 695

(2) INFORMATION FOR SEQ ID NO: 319:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 875 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 319:

AATATTGaTa TTATATATAG TCGAATCaAT GATGACCCaC ATCGACcTAA TGCAAATAAT 60  
 5 AAGACAATCA AGCAGTTAAA TGACTTGTAT TGCTCGCGGA ATTTAAGATA TAATGAAATC 120  
 GCATTCAAGA AATTTGATAG TCATTTGCTA TCAATTTcAG AAATATATTA TGAATTGCTA 180  
 AATTTAATAA AAGCGAGTGA TCAGTATTAG AGAGAATAGA GCGTTAAGAC TCTATCGCCG 240  
 10 AAGtGCAAGT AATTTATTAC GAAACTCTCA GGcAAAAGGr TAATACTGTA ACGCGTTCCT 300  
 GAATTGGTGA TTTATAAACA GGGTAGCGAT TGCTATCCTG TTTTATAAT TTTAAGGGGG 360  
 TATTTCAATG TCAAGTGATT TAAACAAAC ACCTTTATAT CAAAATTATG TTGATAGAGG 420  
 15 TGCAAAAATT GTGGAATTCG GAGGATGGGC GATGCCTGTT CAATTTTCAA GTATTAAAGA 480  
 GGAGCATAAT GCTGTTcGAT ACGAAATTGG CCTGTTTGAT GTTAGTCATA TGGGTGAAAT 540  
 20 TGAAGTAACA GGTAAAGATG CTAGTCAGTT TGTGCAATAT TTATTATCAA ATGATACTGA 600  
 TAATTTAACT ACTTCAAAAG CATTATATAC TGCTTTATGT AATGAAGAAG GCGGTATTAT 660  
 TGATGATTTA GTAATATATA AATTAGCTGA CGACAATTAT TTATTAGTTG TTAATGCTGC 720  
 25 TAATACTGAA AAAGATTTTA ATTGGATTTT AAAACACAAA GAGAAATTTG ATGTTGAAGT 780  
 ACAAATGTA TCAAACCAAT ATGGTCAATT AGCAATACAA GGACCAAAAG CtAGAGATTT 840  
 AATTAATCAA TTAGTTGATG AAGAkGTAAC TGAAA 875

## (2) INFORMATION FOR SEQ ID NO: 320:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5897 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 320:

TCTTTTTACG AAGGCTACCG TTTAGGATCT GATAACTTAA CTGTAGGAGA AATTGTATTT 60  
 AATACAGCGA TGACAGGTTA TCAAGAACT ATTTcAGATC CATCATATAC AGGTCAGATC 120  
 45 ATTACTTTTA CGTATCCATT AATCGGTAAT TATGGTATCA ATAGAGACGA TTTTGAATCA 180  
 TTAGTACCTA CATTAAACGG TATTGTAGTG AAAGAAGCGA GTGCGCATCC AAGTAATTTT 240  
 AGACAGCAAA AGACACTTCA TGACGTTTTA GAATTGCATC AAATTCCAGG GATTGCAGGT 300  
 50 GTTGATACAA GAAGTATTAC GCGTAAAATT CGACAACACG GTGTGTTAAA AGCTGGTTTT 360  
 ACTGATCGAA AAGAAGATAT TGATCAACTT GTCAAACATT TACAACAAGT AGAATTACCT 420

|    |   |      |
|----|---|------|
|    | AGTGTCGTAC TTGTAGACTT TGGTAAGAAG CAAAATATTG TTCGAGAATT AAACGTCAGA | 540  |
|    | GGTTGTAACG TCACAGTTGT ACCATATACA ACTACTGCCG AAGAAATTTT AGCAATGGCT | 600  |
| 5  | CCAGATGGCG TTATGCTATC AAACGGACCA GGTAACTCTG AAGTTGTAGA ATGTGCGATT | 660  |
|    | CCAATGATTC AAGGAATTTT AGGGAAAATT CCGTCTTTG GTATCTGTCT AGGACATCAA  | 720  |
|    | CTTTTTGCAT TATCTCAAGG AGCAAGCTCA TTTAAAATGA AGTTTGGTCA TCGTGGTGCC | 780  |
| 10 | AACCATCCAG TTAAAAATTT AGAGACTGGA AAAGTTGATA TTACGAGTCA AAACCATGGA | 840  |
|    | TATGCAATAG ATATAGATTC GTTAAAAAGT ACTGATTTAG AAGTTACTCA TCTTGCATTA | 900  |
|    | AATGATGGTA CTGTAGAAGG TTTAAAACAT AAAACATTAC CAGCATTTTC TGTTCATAC  | 960  |
| 15 | CATCCTGAAG CAAATCCAGG ACCGTCAGAT TCAAACATC TATTTGATGA TTTTGTAGCA  | 1020 |
|    | ATGATGACTA ATTTTAAGGA AAAGGAGCGT CATATCAATG CCTAAACGTA ATGATATCAA | 1080 |
| 20 | AACAATTTTA GTAATAGGGT CTGGGCCAAT TATCATAGGT CAAGCAGCTG AATTTGATTA | 1140 |
|    | TGCTGGAACA CAAGCATGTC TAGCTTTAAA AGAAGAGGGA TATCGAGTTA TTCTTGTA   | 1200 |
|    | TTCAAATCCA GCGACAATCA TGAAGTATAA GGAAATTGCG GATAAAGTAT ATATCGAACC | 1260 |
| 25 | GTAACTCAT GATTTTATAG CGCGAATTAT ACGTAAAGAG CAACCTGACG CTTTACTTCC  | 1320 |
|    | AACCTTAGGT GGTCAAACAG GTTTAAACAT GCGGATTCAA CTACACGAAA GTGGTGTGCT | 1380 |
|    | TCAAGATAAT AACGTCCAAT TATTAGGAAC TGAGCTAACA TCAATTCAAC AAGCAGAAGA | 1440 |
| 30 | CCGTGAAATG TTTAGAACAT TAATGAATGA TTTAAACGTT CCTGTACCAG AGAGTGACAT | 1500 |
|    | TGTAAATACA GTAGAGCAAG CCTTTAAATT CAAAGAGCAA GTGGGATACC CGCTAATTGT | 1560 |
|    | TAGACCGGCA TTTACGATGG GTGGTACCGG AGGCGGTATT TGTCATAATG ATGAAGAATT | 1620 |
| 35 | ACATGAAATC GTCTCAAATG GTCTTCATTA TAGTCCAGCA ACGCAATGTT TATTAGAAAA | 1680 |
|    | ATCTATCGCA GGTTTTAAAG AAATCGAATA CGAGTAATGc GTGaTAAAAA CGATAATGCC | 1740 |
|    | ATCGTTGTAT GTAACATGGA AAATATTGAT CCAGTTGGTA TTCATACAGG CGATTCAATT | 1800 |
| 40 | GTGTGGCTC CTAGTCAAAC ATTATCAGAT GTTGAGTATC AAATGTTACG TGATGTTTCA  | 1860 |
|    | TTAAAAGTTA TTCGAGCTTT AGGTATCGAA GGTGGTTGTA ATGTTCAATT AGCATTAGAT | 1920 |
| 45 | CCCCATTCAT TCGATTATTA TATTATAGAA GTAAATCCGC GTGTATCACG TTCATCAGCG | 1980 |
|    | TTAgCTTCAA AAGCAACAGG ATATCCTATT GCAAAATTAG CTGCTAAAAT CGCGGTTGGT | 2040 |
|    | CTAACATTAG ATGAAATGTT AAATCCAATT ACAGGAACAT CTTATGCAGC GTTTGAACCA | 2100 |
| 50 | ACTTTAGACT ATGTGATTTT AAAAATACCA AGATTTCTTT TTGATAAATT TGAAAAAGGA | 2160 |
|    | TTGGCACACA AATGAAAGCA ACAGGTGAAG TTATGGCCAT TGGTCGAACT            | 2220 |

|    |            |            |            |            |            |             |      |
|----|------------|------------|------------|------------|------------|-------------|------|
|    | TTACCAAATG | GTGAAAGCTT | CGATCTTGAT | TATATTAAAG | AACGTATTTT | ACACCAAGAT  | 2340 |
|    | GATGAACGAT | TATTTTTCAT | CGGCGAACAA | TTAGAAGAGG | CACAACATTA | GAAGAAATTC  | 2400 |
| 5  | ATAATATGAC | TCAGATTGAT | TACTTCTTCT | TACACAAGTT | CCAAAACATT | ATTGATATTG  | 2460 |
|    | AGCATCAATT | AAAAGAGCAT | CAAGGTGATT | TAGAATATCT | TAAATATGCA | AAAGATTATG  | 2520 |
| 10 | GATTTAGTGA | TAAAACAATA | GCGCATCGCT | TTAATATGAC | GGAAGAAGAA | GTATATCAAT  | 2580 |
|    | TGCGTATGGA | AAATGATATT | AAACCTGTTT | ACAAGATGGT | TGATACTTGC | GCAgCTGAAT  | 2640 |
|    | TTGAATCTTC | AACACCATAT | TATTATGGTA | CATACGAAAC | TGAAAATGAA | TCCATAGTTA  | 2700 |
| 15 | CTGACAAAGA | AAAAATCTTA | GTATTAGGCT | CTGGACCAAT | TCGAATCGGC | CAAGGTGTAG  | 2760 |
|    | AATTTGACTA | TGCGACAGTT | CACGCCGTTT | GGGCAATTCA | AAAAGCAGGG | TACGAAGCGA  | 2820 |
|    | TAATTGTGAA | TAACAATCCA | GAAACAGTTT | CAACAGACTT | CTCAATTTCT | GACAAATTAT  | 2880 |
| 20 | ACTTTGAACC | TTTAACTGAA | GAAGATGTGA | TGAATATCAT | TAATTTAGAA | AAACCTAAAG  | 2940 |
|    | GTGTCGTTGT | ACAATTTGGA | GGACAAACAG | CGATTAATTT | AGCAGACAAA | TTGGCTAAAC  | 3000 |
|    | ATGGTGTTAA | AATACTTGGT | ACTTCACTAG | AAAATCTAAA | TCGTGCTGAA | GATAGAAAAG  | 3060 |
| 25 | AATTTGAAGC | ACTATTAAGA | AAAATTAACG | TGCCACAGCC | ACAAGGGAAA | ACAGCTACAT  | 3120 |
|    | CACCTGAGGA | AGCATTAGCG | AATGCTGCAG | AAATCGGATA | TCCGGTTGTA | GTAAGACCTT  | 3180 |
|    | CTTATGTATT | AGGTGGTTCG | GCAATGGAAA | TTGTAGACAA | TGACAAAGAG | TTAGAAAAC   | 3240 |
| 30 | ATATGACCCA | GGCTGTAAAA | GCGAGTCCGG | AACATCCGGT | ACTAGTCGAT | AGATATTTAA  | 3300 |
|    | CTGGTAAAGA | AATTGAAGTT | GATGCGATTT | GTGATGGAGA | AACGGTCATT | ATTCCAGGAA  | 3360 |
| 35 | TCATGGAACA | TATTGAACGT | GCTGGTGTGC | ATAGTGGTGA | CTCAATCGCT | GTATATCCAC  | 3420 |
|    | CACAACTTTT | GACAGAAGAC | GAGTTAGCAA | CACCTGAGGA | CTATACTATA | AAATTAGCTA  | 3480 |
|    | AAGGTTTAAA | CATCATTGGC | TTAATCAACA | TTCAATTCGT | TATAGCTCAC | GATGGTGTGT  | 3540 |
| 40 | ATGTTTTAGA | AGTAAATCCA | CGTTCTAGTA | GAACGGTACC | ATTCTTAAGT | AAAATTACTG  | 3600 |
|    | ATATTCCAAT | GGCACAATTA | GCTATGCGAG | CAATCATTGG | GGAAAACTA  | ACAGATATGG  | 3660 |
|    | GTTATCAAGA | AGGGGTTCAA | CCATATGCTG | AGGGTGTCTT | TGTGAAAGCA | CCAGTATTTA  | 3720 |
| 45 | GTTTTAATAA | ATTGAAAAAT | GTTGATATTA | CTTTAGGACC | TGAAATGAAG | TCAACAGGTG  | 3780 |
|    | AAGTGATGGG | GAAAGATACT | ACATTAGAAA | AGGCGTTATT | CAAAGGGTTA | ACAGGTAGTG  | 3840 |
|    | GCGTTGAAGT | TAAAGATCAC | GGTACAGTAT | TAATGACCGT | CAGTGACAAA | GATAAAGAGG  | 3900 |
| 50 | AAGTTGTTAA | ATTGGCACAA | CGCTTAAATG | AAGTTGGCTA | TAAAATTTTA | GCAACGCTCTG | 3960 |
|    | GAAcAGCTAA | TAAATTAGCT | GAGTATGACA | TACCTGCAGA | AGTAGTAGGC | AAAATTGGTG  | 4020 |

|    |  |      |
|----|--|------|
|    | TGACTAAAGG TAAAGAAGTA GAAAGGGATG GCTTCCAAAT TAGACGTACT ACAGTTGAAA  | 4140 |
|    | ATGGTATTCC ATGTTTGACA TCTTTAGATA CAGCTAATGC CTTAACGAAT GTAATTGAAA  | 4200 |
| 5  | GTATGACATT TACAATGCGT CAAATGTAAA TCAATCAAAC TGTATCGGTG GGGCTGTAAT  | 4260 |
|    | TAACCATTTA CTTAAAGAAG TTTATATTAC AGCCTCATTA TTTTAATGAA TTTCTTAATA  | 4320 |
|    | TAAAGGGAGA CaTATATGAT GAAAGATTTA CCAATTATTG CATTAGATTT TGAATCAAAA  | 4380 |
| 10 | GAAAAAGTAA ATCAATTTTT AGATTTATTT GATGAATCAT TATTCGTAAA AGTAGGTATG  | 4440 |
|    | GAACTTTTTT ATCAAGAAGG TCCTCAATTA ATTAATGAGA TAAAAGAAAG AGGCCATGAT  | 4500 |
| 15 | GTATTTTTAG ATTTAAAACT GCATGATATT CCTAATACAG TTGGTAAGGC GATGGAAGGA  | 4560 |
|    | CTAGCTAAAT TGAATGTTGA TCTGGTAAAT GTTCATGCTG CTGGTGGCGT AAAAAATGATG | 4620 |
|    | TCTGAGGCCA TTAAAGGATT AAGAAAACAT AATCAAGATA CAAAAATTAT TGCAGTAACA  | 4680 |
| 20 | CAGCTTACGT CAACAACAGA AGACATGTTA CGACACGAAC AAAATATACA AACATCGATT  | 4740 |
|    | GAAGAGGCCG TTTTAAATTA TGCCAAGTTA GCAAATGCAG CTGGTTTAGA TGGCGTTGTT  | 4800 |
|    | TGTTACCTC TTGAAAGTCG TATGTTGACT GAAAAGTTAG GTACATCATT TTTAAAAGTA   | 4860 |
| 25 | ACACCAGGTA TTAGACCTAA AGGTGCATCT CAAAATGACC AACACCGTAT TACGACACCG  | 4920 |
|    | GAAGAAGCAA GACAGCTTGG TTCGACGCAT ATTGTAGTCG GTAGACCGAT TACACAAAGT  | 4980 |
|    | GACAATCCAG TCGAAAGTTA TCATAAAATT AAAGAAAGTT GGTTAGTATA ATGGCTAAAG  | 5040 |
| 30 | AAATTGCAAA ATCATTATTA GATATTGAAG CTGTAACATT ATCACCAAAT GATTTATATA  | 5100 |
|    | CATGGAGTTC AGGTATTAAA TCACCGATTT ACTGTGATAA CCGTGTTACG TTAGGTTATC  | 5160 |
|    | CTTTAGTTCG AGGCGCAATC CGCGATGGTT TAATTAACCT AATTAAAGAA CACTTTCCTG  | 5220 |
| 35 | AAGTAGAAGT TATTTCTGGT ACTGCAACAG CTGnTATTCC ACATGCAGCT TTTATTGCTG  | 5280 |
|    | AAAAATTAAA ATTACCAATG AATTATGTTT GTTCATCAAA TAAGAGTCAT GGTAAGCAAA  | 5340 |
|    | ATCAAATCGA AGGTGCTAAA AGTGAAGGTA AAAAAGTAGT TGTGATAGAA GATTTAATTT  | 5400 |
| 40 | CGACAGGGGG ATCTTCAGTC ACAGCAGTTG AAGCCTTAAA ACTAGCAGGT GCAGAAGTAT  | 5460 |
|    | TAGGTGTTGT AGCTATCTTT ACTTACGGTT TGAAAAAGC AGATGATACA TTTAGCAATA   | 5520 |
| 45 | TTCAACTACC TTTTACACT TTAAGTGATT ACAATGAATT AATTGAAGTA GCTGAmAmTG   | 5580 |
|    | AAGGTAAAAT TTCTAGTGAA GATATCCAAA CATTAGTTGA ATGGAGAGAC AACTTAGCAT  | 5640 |
|    | AATATAGACA CTAGAAGGAG GAATTCAACA AATGAATGAC AAAACATCTA ATGATTTATA  | 5700 |
| 50 | TGGGAAGATA AAACATTGTA ACGAATTTAT CAATCATTCa AATGATTCCA ATCTATCTAG  | 5760 |
|    | ATCAAGGAT CTCGACGAAA GTTCAACGAA GCAAAAACAT ATAAAAATA AAACAACAT     | 5820 |

TTAAAAACAA AAAAGCT

5897

## (2) INFORMATION FOR SEQ ID NO: 321:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 7965 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 321:

|    |  |      |
|----|--|------|
| 15 | TCATTCTAAA TCAACTTATT TTCCATTGCA TAAATTGCTG CTTGTGTACG ATCGCTAACT  | 60   |
|    | TGTAATTTAC TAAATATATG ACTGACATGT GTTTTAATTG TTTTTCAGA TACAAATAAA   | 120  |
|    | GTTTCTGCAA TCTCTTTATT TGTMTTACCT TTAACCATTT CACGTAACAC TTCAATTTCT  | 180  |
| 20 | CTCTTTGACA ACTTATTCGT GTAGTGTGGT TTTTGGCTAA CTGTTTCGAA TACATCTTGT  | 240  |
|    | GCCTTAGGAT GTATCATTTT TTCACCGTTC ATAACGTC TAATAGTTTC AATTAATTGC    | 300  |
|    | TGAGGCTCAA CGTCTTTCAT TTCATAACCA TCAGCACCTT TATTGATTGC TGAAATTACA  | 360  |
| 25 | TGTTTCATCAT CAACATAACT TGTTAATACC AAAACTTTAA TATCCGGATA ATGTGCCTTA | 420  |
|    | ATATATTCCG TAATTTCAAT ACCATTCATG CCAGGCATCA CTAAATCTAA TAGCACAATA  | 480  |
|    | TCAGGGTGCT CATGCTCTTT TAAATATTCT AAAAATGTTT CTCCATCTGC AAAGTCTTGT  | 540  |
| 30 | AAAACTTCTA TGTTTTCAaT CGTGGaTAAT AAAAATCGCA ATCCTTGtCG CACAATATAA  | 600  |
|    | kGGwCATCTA CTAATATnAC TTTGTTcATG GGTtATCTCC TTAAAtCAAG CTATTTTATA  | 660  |
|    | GGAATTGTGA ATTGTATTTG TGTACCCTTT GTTGGCTGAG AATGAAAGGT CACTTTACCT  | 720  |
| 35 | CTTAATAATT TAACTCTTTG TTTTATGTTA TTAATACCGT GTGATGAAGC TATCTGAACA  | 780  |
|    | TTATCGATCT CAAATCCTTG ACCATAATCA ATCACGTCAA TATATAGTAT ATCGTTCATT  | 840  |
| 40 | TGTTTTAATG TAAGATCCAT TTTATTcGTA TCAGCATGTT TCTTAACATT ATTAATACAC  | 900  |
|    | TCTTGTAATG CTCTGTATAT GTTTTCTTCG ATTTcATTAG ATAAATCGAT TAAACCTTCT  | 960  |
|    | ACATTTACAT TTAATTGTAT ATGCATTAAAT TTAATATATG CTGTCAAAGC ATGAATTAAA | 1020 |
| 45 | CCTTGCTCAA GTCCAActGG CTTAAGTnGC CAAATCAATG CACGCATTTC ATTAACGGCA  | 1080 |
|    | TTTTGACTCG TTtCCTCAAT CGTCTTGAAT GCTTGTTTAg CGATGGATTc GTTTGACATG  | 1140 |
|    | CCATACGCAG CATGTGctGT TAGTTTTACA GAAAAATAACA TTTGATTTAC TGAATCATGT | 1200 |
| 50 | AAATCTCTAG CTAAACGATT ACGTTCATTA ATTTTGCCG CTTCTTTTTTC ACGGTCTGTT  | 1260 |
|    | AAATAAATAC GTTTGATGGC TGACCCTAAT TGAAATGCGA CAGACTCTAG CAACTCTAAA  | 1320 |

|    |  |      |
|----|--|------|
|    | TGACCCGATT TAAGTGGTAC CGTTGCATGA TGTGTAATAT TGTCATTTTG GCTAGGAAAT  | 1440 |
|    | GCTTTAGAGG CTAAGTTAAT ACGAGAACAA TTGACGATAT TCGACGCTTT CATTAGCCTA  | 1500 |
| 5  | CGTTGATTAA ATGCTTTTAC ACACCAACAA GACCCATCTT TAATATAGTG ACAGTGGTCT  | 1560 |
|    | GCTGTCAAAG ATTGTGGTAG AGCCACATGT GATACAAGTT CATGTTCCACC TACGCTATTG | 1620 |
| 10 | ATGAAAAATA TCCAGCCTGT CGTGAAATTA CTGCCCTCAA TTAAATATTT TAACGCACCT  | 1680 |
|    | TGGGTCATGC TATACATTTT TGTTCCTTCG TTTAAAAATT CGGCAATCTC TTTTAATAAA  | 1740 |
|    | GCTAGTCGCG TCCTTTGTTC CATCAAATCG CTCCAATTCA TTTTACGTG TATTAECTAT   | 1800 |
| 15 | TATACATTGA GTTATTATAT TTTTAAATCT TAGACGTAAA CATGATAAAA TGGCCTTGAT  | 1860 |
|    | TACTCAATAG TTATATTTTC GAGAACTGAT TTGTGATATG ATATTAAAGA CTATAGGAGG  | 1920 |
|    | ATTTTATGAA ATTTAAAATA CCAGAAACT TTAATGACTT AAGTTTACGA GATATTTTCC   | 1980 |
| 20 | AACAACCTAA GGTACCTAAA AAAGATTTAC ATCATTTAAA TATGTCTAAA GATATTACTA  | 2040 |
|    | TTAATGATAA ACCTGCGCGA TTAATGGATA AAGTGCATAC TGGCGACGAT GTATTTGTTC  | 2100 |
|    | CAACCATCGA TGAAAAAAGT AATTATGTTT CAAGTTATCG TTATGCACAA ATTAAATACG  | 2160 |
| 25 | AAGACGATGA TATGGCAATC GTAATGAAAC CTAAAGGTGT TAAGACTCAC CCTAATGATT  | 2220 |
|    | TAAAAGAAAG CAATACTTTA ATGAATCATG TGATTTACAC TATTGATAGT GACTATGTGC  | 2280 |
|    | AACCAATTCA TCGACTGGAC CAGGAAACAG TAGGATTATT AATTGTTGCT AAAAATCCTT  | 2340 |
| 30 | TAATGAAAAA AATTCTTGAT CGCATGTTAG AAGACAATGA TATTACGCGG ATATACAAAG  | 2400 |
|    | CAAATGTTAA GGCACCTTTT CCTTTAAAAC CACAAACGAT TGATATGCCA ATTGGTAAAG  | 2460 |
| 35 | ATAAATTCCA TTCGAATAAA CGACGTGTGT CTCCTACTGG ACAGCGTGCA ATTACACACA  | 2520 |
|    | TTTTAACTTC AAAAATGATA AAAGAAGCTG TGTGCCMACT TGAAATCAAG TTGGATACTG  | 2580 |
|    | GACGTACTCA TCAAATWCGT GTGCATTTAG CTGAAATTGG TCACCCTGTT ATTGGTGATC  | 2640 |
| 40 | CTTTATATGG TGATTCAACG TTAAGACAAT TAGAACTTGA AAGTTACAAA ATAGAGTTTG  | 2700 |
|    | TGcATCCCTT GACTAAGGAA GTCATTTCCG TTTCTTTGGA TGACTAATTT GATTAGTTTT  | 2760 |
|    | GCATGATATT tAAACATGCA ATACCGCATT GTAACCTAAAT CAAGTATCAA CtTAAAcGGA | 2820 |
| 45 | TAGATGGAAA ATTATTAATT TTTTCAGATG TTCGGTTTTT TTGTTTTTTA CGATGCTTAG  | 2880 |
|    | GATTTTATAT TTTGATATTT TAGTAATTAT TCATTTTATA ACATCCTTGG ATAATGACTT  | 2940 |
|    | GTAGTCTTTT TCAACTGCGT TACGTGTATC TATGGACAAT ACATGACATC ATAAGATTTT  | 3000 |
| 50 | TATCACAGGT TGTTTGGCCA ATACATGTAC AACAAATTCAT CATATAAAAA ATAGGTTCTA | 3060 |
|    | TAATAAAACG GACTCCATGA AAAGTTTTTC CTTTTCATGG CTCTATATCA AATCAGACTT  | 3120 |

|    |            |            |            |             |            |             |      |
|----|------------|------------|------------|-------------|------------|-------------|------|
|    | CCAAACTTTA | TTTATATTA  | ATATTTAATT | AATGAGGATC  | TACCATATCT | TCTGGTTTAA  | 3240 |
|    | TCCATGCTTC | AAATTGTTCT | TCTGTAACAT | ATCCAGTTTG  | AATTGCAGAT | TCTTTTAAAG  | 3300 |
| 5  | TTAAACCTTC | TTTATGGGCT | TTCTTAGCAA | TTTGAGCTGC  | TTTTTCATAA | CCAATATGTG  | 3360 |
|    | GATTTAATGC | AGTAACTAAC | ATTAATGATT | GATTTAAATA  | ATTATCAATA | TTCTCTTCGA  | 3420 |
| 10 | TTGGTTCAAT | GCCCACTGCA | CAATTGTTAT | TAAATGTTTC  | CATACCATCA | GCTAAAAGAT  | 3480 |
|    | AAATTGATTG | TAGTGTATTA | TGCATAATAA | CTGGTTTATA  | AACATTCAAT | TCAAAGTTAC  | 3540 |
|    | CTTGTGAACT | TGCGAACCAA | CAACTGTATC | ATTACCCATT  | ACTTGGACTG | CnACCATTGT  | 3600 |
| 15 | TAACATTTCA | CATTGTGTAG | GATTAACTTT | ACCAGGCATA  | ATTGATGAAC | CTGGTTCATT  | 3660 |
|    | TTCAGGGATA | GAAATTTCTG | CCAAACCAGC | TCGTGGCCCT  | GAAGCCAACC | ATCTCACATC  | 3720 |
|    | ATTAGCAATT | TTCATTAAGT | CTCCTGCTAA | TGCCTTCAAT  | GTTCCATGCA | ATTGAACAAC  | 3780 |
| 20 | TTCATCATGC | GCTGTAAGTG | CGTGGAATTT | ATTTTCAGAA  | GATACAAATG | GATAACCCGT  | 3840 |
|    | ATTTTCTGAA | ATATAATGTG | CCACTTTATC | ACCAAATTCA  | GGATGCGCAT | TAATACCAGT  | 3900 |
|    | ACCAACAGCC | GTACCACCGA | TGGCAAGATT | TAAAATGTGC  | TTCTTAGATT | CAGATAACAT  | 3960 |
| 25 | TGTTTCACAA | CGGTCAAGCA | TATAACGCCA | GCCACTAATC  | TCTTGTCTTA | GTTTGATCGG  | 4020 |
|    | CGTTGCATCT | TGTAAATGTG | TACGACCAAT | TTTAATAATT  | GAATCAAATT | TATCTTCTkT  | 4080 |
|    | TTCTTTCAAA | GTATTTCTTA | AAAGTTTTAA | TGCAGGTTCT  | AATTTTGTTT | CAACCTCTTG  | 4140 |
| 30 | ATATAATGCA | ACGTGCATAG | CAGTTGGGaa | TGTATCaTTC  | GaACTTTGAG | ATTyATTTAC  | 4200 |
|    | ATCATCATTk | GGGTGGATAC | TTTCATCACT | TTGATGATCT  | TTTAAATACA | TATTAGCAAC  | 4260 |
| 35 | ATAACTTACT | ACTTCGTTCA | CATTCATATT | ACTTTGTGTA  | CCGCTTCCTG | TTTGCCATAC  | 4320 |
|    | AACTAGTGGG | AAGTGTTTCA | CTAATTCACC | TGATAAAATT  | TGATCACATG | CGTATACAAT  | 4380 |
|    | GGCATCTTTC | TTTGCTCGC  | TTAATTTTCC | TAAATCAAAA  | TTAGCTATTG | CTGCTGCACG  | 4440 |
| 40 | CTTTAGTTGT | GCAAAACCAT | AACTACTTC  | GATTGGCATA  | CGCTCTTTAC | CAACTGGGAA  | 4500 |
|    | ATTACGTTTA | CTTCTTTCTG | TTTGAGCACC | CCAATATTTA  | TCTGCAGGTA | CTTCTATTTT  | 4560 |
|    | TCCAAAAGTA | TCATGTTCAA | TTCTTACTGA | CATTCAATTT  | CTCCCTTAT  | CACTGTTTAT  | 4620 |
| 45 | TTAACTGTAG | TATATCATTA | AATAATTTAA | TTGAGCAATT  | TATGATTAAA | ACGTTTTTCAT | 4680 |
|    | AATTTGAAAT | AAAAATACAC | TAATCGCACG | TGTTCAACCCT | TTATTACAGT | GATACGGTCA  | 4740 |
|    | TACGATTAGT | GTGTTATCTA | TCATTATTTA | GTTATTATTG  | AACTAAGTTT | AATTACGATA  | 4800 |
| 50 | CTTTGTTTTA | GTAGCTTCAA | CCGtAGCAAT | AGCTGTAAGT  | ATATATAATA | CAGCACTAAC  | 4860 |
|    | AATTGTCGTA | TATGGATTTA | GAGCAACAAG | CGTaCCTAAA  | ACTCCTGTTA | AACTCGCATA  | 4920 |

|    |  |      |
|----|--|------|
|    | TACAATACCT GATTGATTAC TTTTAATGAA TGTTTGCGCA TTAACATCAT CAATTAATCC  | 5040 |
|    | TTTTGATAAA TTGAGTTGTA ATTTTATTAC TTTGAAAATA ACAGGTAAAT ATAATGCCCC  | 5100 |
| 5  | AATTGCCAAT GGAAAAGCTT TAATTGATAT TAAACTTATA ATAACTGTTG CTATCAATAA  | 5160 |
|    | TTGAATCCAG TATTTTCCTA ACATAAATAT ATAAATCTCC TCTAATTTC A TTCTTCAATA | 5220 |
| 10 | GCATATCATA ATCTTGGCAT ATTAAGAAAC GCGGTTTAAT GATTTTCATTA AAAATATTAC | 5280 |
|    | TGATAGATGA CTTCTTTTCAA TTATGTCTGG AGTAATTAAT TATCAATTCC GTTTAAATGG | 5340 |
|    | TGTTTTAATA TTTAAAATTG AACTTTTGAT ATATTACTAT GTCTGGTACA CAAATCAATG  | 5400 |
| 15 | TTTTATGCTT TACAAAGTTA TATTGGCAGT AGTTGACTGC AGTCCACAAC ATAGAGGCTT  | 5460 |
|    | CGGAATGTCA GCTTCTATTT CATGCAAGTT GGTGGAGCTC CAACATAGTG GAATTGGATT  | 5520 |
|    | CCCAATTTCT ACAGACATTG CAAATTGGGG AAACGGGCCA CAAACTCAGA AACTGGTGGA  | 5580 |
| 20 | AAGTCAGCTT AAAATAACAT GCAAGTTGGC GAGGCCCCAA AATAGTGAGA TCGGATTTCT  | 5640 |
|    | AATTTCTACA GACATTGCAA ATTAGGGAAA CGGGCCACAA ACTCAGAAGT TGGTGAAAG   | 5700 |
|    | TCAGCTTAAA ATAACATGCA AGTTGGCGGG GCCACAACAT AGAAAAATTG GATCCTCAAT  | 5760 |
| 25 | TTCTACAAAC AATGTAAGTT GGGGAAACAG CCCCAACACT GAAACTAGCA GAAAGTCAGC  | 5820 |
|    | TTCTATGAAT ATAATAAAAA AGCTAGGTAA CAAAATGCTA CCTAACTTCA TATTCAAGAT  | 5880 |
|    | AATCAATCCT ATTTGATATA TGTTCTATAC TATACATTAT TTACATGATA AATAACTGAA  | 5940 |
| 30 | TATTACACAA TTATAATACT TTACTGACTG TCTTCTTCAG AATTCTTTTC TTGATCATT   | 6000 |
|    | TGATCAGAGA TTTGTTCCaT TTCTTTACCT AATCTTTTA AATCTTCAA ATCCGTTACC    | 6060 |
|    | ATACTGTTTT CTTCTTCATG ATAATTTAAT TTTGGATCTT TGTCTTTAGA CATAATCAAT  | 6120 |
| 35 | ACCTCACAGA TTTTAAATTA AGCAAAGCGT GACGTAAAGT AAGCTTTAAC ATCTTCAGGT  | 6180 |
|    | AAACCTGCAG CCGCTTCTTT ATCAAGAATA ACATTTACCA TTCTATGTGC TTTTAAATCG  | 6240 |
| 40 | GCTGGTTCGA AGCTTGTTTT ACCATTTTCT TGATATAATT TTTCAACTAC ATCTCGTTTA  | 6300 |
|    | TTAGCACCTG TCACTACTAA GAAAATTTCT CTTGCTTCCA TTAGTCCTTG ACGAATACTA  | 6360 |
|    | ACATTTAACT TACCTTGCTC ATCGATAGAA ACAACTTGTA ATGTTAATTT CCCTTTATTT  | 6420 |
| 45 | TCTTTAGTTT TAATCTTATC AGCGATTAAT TCGATTGCAT CTTTTTCATA AGCAATTGGA  | 6480 |
|    | TAAACTTGAC CTGCTGGTAC ACCTAACGCT TCGAAATATG ATTTTTTATC GTCATAATCT  | 6540 |
|    | AAAATATTTA TTTGGCTAAA ATCAACAGCA TGTTTTTCAA CATTTTCTT TAATTCATCT   | 6600 |
| 50 | AGAACTGGCG CTTGATCTGT ATCTAAATGA AAACCTGCAA TTGTAGTAGG ATTATTGTTA  | 6660 |
|    | AAATGCTTTG TAATAATATC AGCAGCATAT TCTGCTACAA GTTGACTATT GTCAAAGACT  | 6720 |

GATATTAATA ATTATTATAC CCTAACTTTC AATATATCAA ACCATTTAAC TTTAACATGC 6840  
 TTATACTCTA AATATAGCAC TTAAGCATCA TTTTATAAT GAAAATGAGT AAATTTTAAT 6900  
 5 TCAATCCCGG TAAATCTTGT TGACGTAACG CTTCATAAAT TAACAACGCA GCAGTATTTG 6960  
 ATAAATTTAA TGAACGAATA TGTTCACCTA TAGGAATTCT TAACGCTGTG TCTTGATATT 7020  
 TCTCTTTCAC CCAGTCTGGT AATCCTGTCTG TTTCTTTTCC AAAAATGAAG TAAAAATCTT 7080  
 10 TGTGATGATT TGAAAAATCA AAATCACTAT AAGTCTTTTT ACCAAATTTT GTTAATAAGT 7140  
 AATACTCGCC ATTTGTGACT TCAAAAAATG CTTCAATACT ATCATGATAC GTAATATTCA 7200  
 CAAATTCCCA ATAATCTAAA CCGGCTCTTT TTAACATTTT ATCATCAGTT CTAAATCCAA 7260  
 15 GAGGTTTAAT TAAATGTAAA TGTGTGTTTG TACCTGCACA CGTACGgCAA TGTTACCAGT 7320  
 ATTAGCTGGG ATTTCTGGTT GATATAAAAC GATATGATTT GTCATATTAC TATTCTCTCC 7380  
 20 TTGTGTCTAA TCCTTTTATC ATTTCAATTCT GAACCTCTGC ATCCTCTTGA TCATAATTAG 7440  
 CATTGATAAA ATCTCTTGCT TCTTCCCCAA GAATTTGACC AATGGCCCAA TAAGCAGTTG 7500  
 CTCGAATCAA CGTCTTTCA TCTGTTGTTG CAACTTTTTT CAATTCTGGA ATTGCATCCA 7560  
 25 CTTCAATTAA ATGCGCCAAT GCTAAAATAG CATTTCGTTG TATCGGCTTT TTACCACGCC 7620  
 AAGCACCTGC AAGgTGACCA TATGTTTGTT TGAATTCTTT ATTAGACATA CGTAGtAAAG 7680  
 GTACTAATCT TGGCTTTAAA ATTTCTGGTT CAAAATGAT GTCATCTTGT TCGGTATTAA 7740  
 30 TACCTCTATT TTTCGGACAA ACTTGTTGAC ACGTATCGCA ACCATATAAT CTATTCCCAA 7800  
 TTTTATAACG ATATTGGTCA GGCATATAGC CTTTTGTTTG CGTTAAAAAA CTAATGCATT 7860  
 TCTGACTATT TAATTGGCCA TTTCCAATA ATGCATTGT TGGACAACGA TCAACACAAA 7920  
 35 TTGTACAATG CACCACAGCT ATCTAATAAT GGATCATCAG GTTCC 7965

## (2) INFORMATION FOR SEQ ID NO: 322:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1302 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 322:

GCCCTGTTGG AGAAATCACC TTTATACGAT GGTGAAAA GCATCATTAG GTACAATCGT 60  
 50 GGCAATTATA GTTATTTTGC TGTTTTAAAG AAACATTCGT ACGACGGCAA TTTCTATTAT 120  
 ATCGATTCCG TTATCACTTC TTATGGCGCT TATTGCTCTG AAATTGAGTG ATGTTTCATT 180

TGTAGTTGTT GAAAATATTT ATCGACGCTT AACAGATTCA GAAGAACAAC TAAAAGGTGA 300  
 AAATTTAATT ATCAGTGC GA CAACTGAAGT ATTTAAACCA ATAATGTCAT CGACACTAGT 360  
 5 TACTATTATC GTCTTCTTAC CACTTGTGTT TGTATCAGGT TCAGTAGGCG AAATGTTTGA 420  
 ACCTTTTGCA TTGGCTATTG CATTTAGTTT ATTAGCATCG TTATTAGTGT CAATTACACT 480  
 CGTTCACGCG TTGGCAGCTA CACTATTTAA AAAAGGCGTT AAACGTCGTA ATAAACAACA 540  
 10 TCAAGAAGGA TTAGGTGTTG TTAGTACAAC TTATAAAAAA GTATTACATT GGTCATTAAA 600  
 TCATAAGTGG ATTGTAATTA TATTAAGTAC ATTAATTTTG GTTGCAACTA TTGTATTTGG 660  
 AGGACCGAGA CTAGGCACTA GCTTTATTTT AGCAGGTGAC GATAAATTTT TAGCTATTAC 720  
 15 TTATACACCG AAGCCTGGTG AAACGGAGCA AGCAGTGTG AATCATGCGA AAGATGTTGA 780  
 AAAATATTTA AAACAGAAAA AGCATGTAAA AACAATTCAA TACTCAGTTG GCGGTAGTAG 840  
 TCCAGTAGAT CCAACGGGTA GTACAAATAG TATGGCAATC ATGGTTGAAT ATGATAATGA 900  
 20 CACGCCTAAT TTTGATGTAG AAGCGGATAA GGTTATTAAA CATGCAGATC GCTTTAAACA 960  
 TCCTGGAGAG TGGAAAAATC AAGATTTAGG AACAGGTGCA GGTAATAAAT CTGTAGAGGT 1020  
 TACTGTAAAA GGTCCATCAA TGGATGCCAT AAAATCAACT GTAAAAGATA TTGAACAGAA 1080  
 25 AATGAAACAG GTTAAAGGAC TAGCCAATGT CAAATCTGAT TTATCGCAA CATATGATCA 1140  
 GTATGAAATT AAAGTCGATC AAAATAAAGC GGCAGAAAAT GGTATTTCTG CAAGTCAACT 1200  
 TGCAATGCAC TTGAATGAAA ACTTACCAGA AAAAACAGTT ACGACTGTTA AAGAAAATGG 1260  
 30 TAAACTGTT GATGTTAAAG TCAAACAAAA TAAGCAAACA GC 1302

(2) INFORMATION FOR SEQ ID NO: 323:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1003 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(x1) SEQUENCE DESCRIPTION: SEQ ID NO: 323:

ATATATATTA ATTTAAACGT GTTTCACATG TACCAGTGTT AATGACAGAT AATGCTGCGT 60  
 45 TTAAACCACC TTCAACAAGG TTTTGTACTG CTTTCATCAGA GAAGAAAGCA ATATGTGGTG 120  
 TTACTAAAAT TCTTTCATGT TCGATTAACT CTAATAATGT TTTATCGTCA ATGTCTTTAT 180  
 TAGTCCAGTC ATTTGTGAAG TATGCTGCTT CATTTTCATA AGTATCAATC GCAGCACCTA 240  
 50 ACAAAGTACC ATCGTTCCTT GCAGCGATTA AATCAGGTGT ATTGATGACT GCACCACGTG 300

GATAGCTTTC TTTGTTTCGCT GGAACATGTA AAGAAATAAT ATCGGCATCT TTAATAGCTT 420  
 CTTTAACTACT ATCTTTTATAA GTTAAAAAGT CTAAATCTTT ATTAGGATAG GCGTCATAAG 480  
 5 CTGTAATTGT AGCACCAAAT CCTGCATATA TtTTAGCTGT AGCAGCACCG ATACGACCCG 540  
 TACCAATAAT TGCAACAGTC ATATTTTTTAA CTGGTTTAGA CATGATTTCT GCTTGCCAAG 600  
 10 TAAAATCATG TGCTTGTACA CGGCGTTCAA TATCTGGGAA GCGACGCACT AATTGTAGGG 660  
 CGATAGArAC AGAATACTCT GCAATtGTTT CAGGTGAATA ACTAGGAACG TTAGATATCA 720  
 CAATATTGTG TTTTTTAGCT AAATCTAAAT CATACATATC AAATCCAGCA GTACGTTGTG 780  
 15 CAATTTGTTT AATACCGTAA GATTCTAATT TAGGATAAAC GTCATTTTCT AACTTACCAA 840  
 ATTGCATTGT AGTTACGCCA TCGTAATCTT TTAATTGAtC GACTGTAGCA CTTGATAATA 900  
 GCTCTTTAGA AGTAGTTACT TCGACATTAT TCTtTtTCCC CCAATTTAAT GCCATCTCTT 960  
 20 TCTCATAATC ACGCGTaCCA AAGAACATAA TTCTCGTCAT TAT 1003

(2) INFORMATION FOR SEQ ID NO: 324:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5030 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 324:

GGCTTTTATA GTGTTTACGA TTATTATGAT TACTTATATT CACGCTGTTA AAAATTATCC 60  
 35 AAATAACCGT ACTGTTTATT ATGGTTATAC AGCTGCATTT AACTTGTTA TATTACAAGT 120  
 TATCACAGGT GCATTATCTA TTATGACAAA TGTTAACCTG ATAATCGCAC TTTTCCATGC 180  
 ATTATTTATC ACTTATTTAT TTGGTATGAC AACATACTTT ATCATGCTAA TGTTACGATC 240  
 40 AGTAAGAAGT GACArGCAAT AACaAAAAAG CmAAACCGTAA TTTTAATGGC ACGCCCATTA 300  
 AAATTACGGT nTTTTATATC AATATTTAAA AtTAAACcTA AGCCATGTAA AAACGAGATT 360  
 45 ACACGTCAAT TGTTGTGTAA TCTCGTTTTA TnTTAATCAT TTTAGTCAGT TGCTTTTTTCA 420  
 ATTTGATTA ATAAATCGCC TGTCGCTATT GTGTCACCAT TATTTACAGT TACTTGTTTA 480  
 ATCACACCGT CAAATGGTGC TTGAATTGTT GTTTCCATTT TCATAGCTTC AGTAATTAGC 540  
 50 AACGGCTGAT TAGCTTTTAC AGTTTCACCT AACTAACCT TGAATTCAGT TACTGAACCT 600  
 GGCATTTGAG CACCGATATG ACTTGGATTA CTCTTATCTG CTTTTGGCTT AACGTTTCGCA 660  
 TTTGTATGCA CATTTTTCATC TTTAATGTAA ATACGTCTCG CTTGACCATT CATCGCATAG 720

|    |   |      |
|----|---|------|
|    | CGTTTACCTT TATCGATTTT GATTTCTACT GTTTCACCAT TACGCATTCC AAAGAAGAAT   | 840  |
|    | GTAGGCGTAT CAAGTAACGA TAAGTTTCCG TATTGATTTT TAGTTTGAAT ATATTGTTCA   | 900  |
| 5  | TATACTTTTG GATATAGTAC ATAATAATA ATATCTTGCT CCGTAACAGG ACCTTGTTGC    | 960  |
|    | TCTTCTTCAA GCAACTCACG GACTTTTTTCA AAATCAACTG GCTCTAGATA TTCACCTGGA  | 1020 |
|    | CGAGCTGTTA GTGCTTCTTG GCCTTTTAAA ATAACCGCTT GTAAATCTTT ATTAAAACCA   | 1080 |
| 10 | TTTACAGGTT GTCCTATTTT ACCTTTGAAG AACGACACTA CTGATTCTGG GAAATCTAAT   | 1140 |
|    | TTATAGCCAT CTGTAATCAC GGATTGTTCA TCAAGATCAT TTTGTACCAT ATAAAGTGCC   | 1200 |
| 15 | ATATCACCAA CTACTTTAGA CGATGGTGTT ACTTTTACGA TATCACCAA TAAGAAATTC    | 1260 |
|    | ACTCTGCGAT ACATATCTTT GACTTCATCA AATCTTTCGC CTAAACCTAA ACTTTTAGCT   | 1320 |
|    | TGTTGACTTA AATTCGAATA CTGTCCACCA GGCATTTTCA GTTGATAAAT TTCAGTATTC   | 1380 |
| 20 | GGTGATTTGA TATCACTTTT AAAGTCTGAA TAATAAGTAC GTACAGTTGA CCAATAATGA   | 1440 |
|    | CTAAGTGACT CCATACCTTC AATATCAGTT CTAAGGTGGC GTGGGAAGCC ATTTAATGCA   | 1500 |
|    | TAATATAACG AATTGGCGCT TGGCTGACTT GTTAAACCAC TCATTGAAGC AACAGCAGTA   | 1560 |
| 25 | TCAATGATAT CGACACCAGC ATCTATTGCT TGTGTTGATG TTAATAAACC ATTACCACTT   | 1620 |
|    | GTATCATGAG TGTGAAGATG AATTGGTAAA TCTACAGCTG ATTTTAACTC ACCAATCAAT   | 1680 |
| 30 | TCGTAAGCGG CTTTAGGTTT TAATAAGCCT GCCATATCTT TAATCGCTAA AATATGGAAA   | 1740 |
|    | CCTTCACGTT CTAACTCTTT AGCTAGTTTG ACATAATACT CTAAAGTATA AATGTTTGAT   | 1800 |
|    | CGCTCAGGAT TTAATAATGTC ACCTGTATAA CAAATAGTAC CTTCTGAGAT TTTGCCCCGCT | 1860 |
| 35 | TCTTGTTACTG CTTTATTGGC AACTTTCATT TGATCTACCC AGTTTAATGA ATCGAAAATT  | 1920 |
|    | CTAAAGACAT CTATGCCTGC TTTAGCACTT TCTTGTTACGA ATTTATGAAT AACATTATCA  | 1980 |
|    | GGATAGTTTT TATAACCAAC TGCCTTTGAA GCACGTAACA ACATTTGGAA TAATACATTT   | 2040 |
| 40 | GGAATAGCTT TACGTAGACG TTCAAGTCGT TCCCATGGGT TTTCCTTCAA GAAATTATAT   | 2100 |
|    | GCCACATCAA ATGTAGCACC GCCCCACATT TCTAGTGAGA AACCATCTTT AAATACGTCC   | 2160 |
| 45 | GCTGTTTTTG ATGCGATATT AATCATATCC TTAGTTCTAA CTCGTGTAGC TAATAATGAT   | 2220 |
|    | TGGTGTGCAT CTCTAAAGGT TGTATCTGTT AGTAAGACAT CATCCTGCTT TTAAACCCAT   | 2280 |
|    | TCAGCTACAC CTTTTGGACC TACTTCATCA AGCAATTGTT TCGTACCACT AAATGAAGCG   | 2340 |
| 50 | ATTTTACTTG AAGATACAGT TGGAATTGAT GCTAATTCAT AGTCTGGTTT CGGACGTTTC   | 2400 |
|    | TCAACATTTG GGAAACCATT AATTGTTACA TTACCTATAT ATTCTAATGT TTTAGTACCT   | 2460 |

|    |            |            |            |             |            |            |      |
|----|------------|------------|------------|-------------|------------|------------|------|
|    | TTAACACCAC | GAATACGCAT | TTCTCGTAAT | GAGCGTACCA  | TTTTTCTTC  | TGCTTGTTTA | 2640 |
|    | AATGATATCG | CGTGTGTAGA | TAATTTTACG | AGTAATGAAT  | CATAATAAGG | TGATATCTCA | 2700 |
| 5  | GCACCTTGGA | AACCATCTCC | AGCATCAAGA | CGTACACCAA  | AGCCCCCGCT | TGAACGATAA | 2760 |
|    | GCAATGATTG | TTCCAGTATC | CGGCATGAAA | TCATTTAACG  | GATCTTCTGT | TGTAATACGA | 2820 |
|    | CATTGGATGG | CATAGCCTAA | TGTTGTAATA | TCTTTTGT    | GCGGCATATT | AATCTCTTCA | 2880 |
| 10 | CCAAATAAAT | CGGCACCTGC | TGCAACTAAA | ATTTGTGTCT  | TAACAATATC | AATTCCTGTT | 2940 |
|    | ACCATCTCTG | TAATTGTATG | CTCTACTTGT | ACACGAGGGT  | TAACTTCTAT | AAAGAAGAAT | 3000 |
| 15 | TCGTCACCAG | ATACTAGAAA | TTCAACAGTA | CCTGCATTGA  | CATATTTAAT | ATTTTCCATC | 3060 |
|    | AATTGAATTG | CAGCATCACA | AATACGTTGA | CGTAATGTTG  | ATGATAATCC | AACTGATGGT | 3120 |
|    | GCAACTTCTA | CAACTTTTTG | ATGACGACGT | TGTACTGAAC  | AATCACGTTT | AAATAAGTGT | 3180 |
| 20 | ACGATATTTT | CATGTTTCGT | ACCTATGACT | TGTACTTCAA  | TATGCTTTGG | ATTATCAATG | 3240 |
|    | TATCTTTCTA | TGTAAACTTC | ACTATTACCA | AATGATTTTT  | CAGCTTCTGA | TTTTGCTCTA | 3300 |
|    | TGGAAAGCAT | CTTCTAATTC | ACTTTCTTCA | CGAACGATTC  | TCATACCTTT | ACCGCCGCCA | 3360 |
| 25 | CCACTTGTGG | CTTTAATCAT | TAGCGGGAAA | CCAGCTTCTT  | CTGCAAATTC | TTTTGCTAAT | 3420 |
|    | TCATATGATT | TAATTGGACC | GTCTGTACCA | GGAATAACTG  | GTAAATCTGC | CTTGATAGCC | 3480 |
| 30 | GTTGTACGAG | CTTTAACTTT | ATCTCCAAAC | ATATCTAAAT  | GTTCTAAATG | AGGACCAATA | 3540 |
|    | AATTTAATTC | CTTCTTCTGC | ACAACGACGC | GCAAATTGTT  | CATTTTCACT | TAAAAATCCA | 3600 |
|    | TAGCCAGGAT | GAATCGCATC | CACATTGCT  | TGTTTTGCTA  | CATCAATGAT | ACGCTCAATA | 3660 |
| 35 | TTTAAATAAC | TTTCAGCAGG | ACCTAAATCA | CTTCCAACCTA | AATAGGATTC | ATCTGCTTTA | 3720 |
|    | TATCTATGTA | ATGAACTTTT | GTCTTCATTC | GAATAAATTG  | CAACTGTGCT | GATGTCTAAT | 3780 |
|    | TCTGCCGCCG | CTCTGAATAT | ACGAATTGCA | ATTTCTCCAC  | GGTTAGCAAC | AAGTAACTTT | 3840 |
| 40 | TTTATTTGTT | TCAATAGCGA | TACACTCCTC | AAACTATTAG  | AATTTTCTAA | CTAATTAGAT | 3900 |
|    | AATAAAATTT | TATCTTAAAG | CGCTCTGTTT | TGCTATAGTt  | mTGTTTCmAA | TTTTCAAAaT | 3960 |
| 45 | TTaACATyCT | tGAGACAATT | AAAaCCyCCG | CTTCmGaAAT  | AATAATTTCA | AAAATGACTA | 4020 |
|    | TGCAACAACA | GGTAGTTCCA | CGTTTTTGTT | GTGAAACATT  | TTCGATTTCT | ACAACTCTAA | 4080 |
|    | AAAATTAAAA | ATAAAATTGC | AAAACATCAA | CATTTATTAT  | CAATAGCGAT | AACTTTATCT | 4140 |
| 50 | TATCATCATG | ATTCTAATTT | CGCCACCACA | TTTAGTAATT  | TTTAGTCATA | AAATTTAGTT | 4200 |
|    | ATAATTATAC | GTTGTTTTGT | TTATAAAATT | TGATAATCak  | GAGTAATCtC | GTAATATCAA | 4260 |
| 55 | AACaAAAAGG | AAGTTAAGCG | TTGTTTGGTT | GcCTAACTTC  | CGTTATTGAA | CTCATCcAGT | 4320 |

TCTCGTACTA AATATTGGCT AGTATTTTTT TAATTAAATT GTCTTCTTAT ATCAACTTTT 4440  
 TGTGTTGTT TCTTTCGTTG CTGGTCTACT TTGATTTGTT TACCTACAAT CAGAAGTAAA 4500  
 5 CCCATAGCAA TACTTAAACT AATCATTGAT GATCCACCAA AGCTGATAAA TGGCAATGGC 4560  
 ACACCAGTTA ATGGAATTGT TGCCGAAATA CCGCCAATGT TTACAAACGT TTGACTTCCA 4620  
 AAGTATGTGG CAATCCCAAC ACACACAAGT TTATAAAAAT ATGATGATGT TTTATTTGCA 4680  
 10 AACTGGAAGG CACGATATAC AATAAAGAAC TCTAAAGTAA TAACTAGCAA TCCTCCGATT 4740  
 AAACCTAATT CTTCGCAAAT AATTGCAAAA ATAAAATCTG TATGTGGTTC TGGTAAATAG 4800  
 15 CCCAATTTCA TTGCACTATT TCCTAATCCT TTTCCAAATA CGCCACCGTT ACCTATCGCA 4860  
 AGCAATGAAT TGGAAATATG GTATCCAGTT CCTGATTCTGA ATTGGAATGG ATCTGTTAGC 4920  
 GTACTAAATC TGGCAGTTAA ATAACCTGGT AACCAACCAG CCATTAATGC AATGACAAAT 4980  
 20 ACTACTAAGA ATCCTAGCAC TGCTGGTATA CCAAATCTTA GGACTTTGTT 5030

(2) INFORMATION FOR SEQ ID NO: 325:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1389 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 325:

CTTGTTAATC CGAAAATTAT TAGTCAATCA AATGAAACAA TAACAGACTT nGAAGGTTCA 60  
 35 ATTACATTGC CAGATGTTTA CGGCGAAGTG ACAAGAAGTA AAATGATAGT TGTCGAAAGT 120  
 TATGACGTCA ATGGGAACAA AGTTGaACTA ACTGCACATG aAGATGTAGC AAGAATGATT 180  
 TTGCATATTA TAGATCAAAT GAACGGTaTC CCTTTTACAG AACGTGCGGA CCGTATTTTA 240  
 40 ACAGATAAAG AAGTGGAGGC ATATTTTATA AATGACTAAA ATAATATTTA TGGGTACACC 300  
 AGACTTTTCA ACAACTGTTT TAGAAATGCT TATTGCAGAA CATGATGTCA TTGCAGTCGT 360  
 AACGCAACCA GATCGACCTG TTGGACGTAA ACGTGTTATG ACACCACCAC CAGTTAAAAA 420  
 45 AGTTGCAATG AAATATGATT TACCTGTATA TCAACCTGAA AAATTAAGTG GATCAGAAGA 480  
 ATTAGAACAA TTGCTTCAAT TAGATGTAGA TTTAATTGTA ACTGCTGCTT TTGGACAATT 540  
 50 ATTACCTGAA TCATTGTTGG CATTACCAAA TCTTGGGGCA ATTAATGTAC ATGCATCATT 600  
 GTTACCGAAG TATAGAGGTG GTGCACCAAT TCATCAGGCA ATTATCGATG GTGAACAAGA 660

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 15  
 20

|            |             |            |             |            |            |      |
|------------|-------------|------------|-------------|------------|------------|------|
| ATTAGGGGCA | GATTTATTAA  | AAGAAACTTT | ACCATCTATT  | ATAGAGGGCA | CAAATGAAAG | 840  |
| CGTACCTCAA | GATGATACGC  | AAGCAACATT | TGCTTCCAAT  | ATTCGACGCG | AAGATGAGCG | 900  |
| AATTAGCTGG | AATAAACCAG  | GAAGACAAGT | GTTTAATCAA  | ATTCGTGGAT | TATCACCATG | 960  |
| GCCAGTTGCT | TATACAACTA  | TGGATGACAC | TAAC TTGAAA | ATATACGATG | CTGAACTCGT | 1020 |
| TGAGACTAAT | AAGATAAACG  | AGCCTGGAAC | CATTATAGAA  | ACGACTAAAA | AAGCCATTAT | 1080 |
| TGTTGCTACA | AATGATAATG  | AAGCTGTTGC | AATTAAAGAT  | ATGCAATTAG | CTGGGAAAAA | 1140 |
| GAGAATGTTA | GCTGCCAATT  | ATTTAAGTGG | TGCGCAAAAC  | ACACTAGTAG | GGAAGAAACT | 1200 |
| TATATGATAG | AAAACGTGAG  | AAGTCTTGCT | TTTGACACGA  | TTCAAGATAT | ATTAAATGAA | 1260 |
| GGTGCGTATA | GTAAC TTGCG | TATCAATGAA | GTGTTGTCAG  | AAAATGAATT | AAATGCAATG | 1320 |
| GATAAGGCTT | TATTTACAGA  | AATTGTCTAC | GGAACCGTTA  | AAAGAAAATA | TACGTTAGAT | 1380 |
| TTTTATTTA  |             |            |             |            |            | 1389 |

(2) INFORMATION FOR SEQ ID NO: 326:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2746 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 326:

35  
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 45  
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|            |            |            |             |            |             |     |
|------------|------------|------------|-------------|------------|-------------|-----|
| TTTGCTAATA | ACAATAAAGC | CAAAGCCGAT | TCACACTCTA  | AACAGCTAGA | AATTAATGTT  | 60  |
| AAGAGTGACA | AAGTACCTCA | AAAAGTAAAA | GATCTAGCAC  | AACAACAATT | TGCTGGTTAT  | 120 |
| GCTAAAGCAT | TAGATAAACA | AAGTAATGCA | AAAAC TTGTA | AATATGAACT | TGGCGAaCTT  | 180 |
| TTaAAATTTA | TAAATTTAAT | GGTGAAGAAG | ATAATAGTTA  | CTATTATCCA | GTTATAAAAAG | 240 |
| ACGGTAAAAT | TGTTTATACT | TTAACACTTA | GTCCTAAAAA  | TAAAGATGAT | TTAAACAAAT  | 300 |
| CAAAAGAAGA | CATGAATTAC | AGTGTTAAAA | TTTCAAAC TT | CATCGCTAAA | GATTTAGACC  | 360 |
| AAATTAAAGA | TAAAnATTCA | AATATCACTG | TTCTTACTGA  | TGrAAAAGGG | kTTTATTTTG  | 420 |
| aAGAAGATGG | cmAAGTTAGA | TTAGTAAAAG | CTACGCCTCT  | ACCTGGTAAT | GTAAAAGAnA  | 480 |
| AAGAAAGTGC | TAAAACAGTT | TCAGCAAAAT | TGAaACAAGA  | GTTaAAAAAT | ACAGTAACAC  | 540 |
| CTACTAAAGT | TGAAGAAAAC | GAaGCGATrC | AAGAAGATCA  | AGTTCAATAT | GAAAATACAT  | 600 |
| TAAAAAACTT | CAAAATTwGA | GaACAACAAT | TCGATAACTC  | ATGGTGTGCA | GGATT CAGTA | 660 |
| TGGCAGCATT | ATTAAATGCa | ACTAAAAATa | CAGACACTTA  | TAATGCACAT | GATATTATGC  | 720 |

|    |  |      |
|----|--|------|
|    | AAATGATTGA ATACGGTAAA TCACAAGGCA GAGATATTCA TTATCAAGAA GGCGTACCAT  | 840  |
|    | CATATGAACA AGTTGATCAA CTTACAAAAG ATAATGTAGG AATTATGATC CTTGCACmAA  | 900  |
| 5  | GTGTATCTCA AAACCCTAAT GACCCACATT TAGGACATGC GCTAGCAGTT GTTGGTAATG  | 960  |
|    | CTAAAATTAA TGACCAAGAA AAACCTATTT ACTGGAATCC TTGGGATACA GAaTTATCAA  | 1020 |
|    | TCCAAGATGC AGATTCAAGC CTATTACATT TATCATTCAA TCGTGATTAT AACTGGTATG  | 1080 |
| 10 | GTTCAATGAT AGGTTACKAA AAAGTAATAT AGATATTGAT TAAAGGCAGG TAAAACTATG  | 1140 |
|    | TATCAACTAC AATTTATAAA TTTAGTTTAC GACACAACCA AACTCACACA TCTAGAACAA  | 1200 |
| 15 | ACCAATATCA ATTTATTTCAT TGGTAATTGG AGTAATCATC AATTACAAAA ATCAATTTGT | 1260 |
|    | ATACGTCATG GCGATGATAC AAGTCACAAT CAATATCATA TTCTTTTTAT AGATACGGCA  | 1320 |
|    | CATCAACGCA TTAAATTTTC ATCTATTGAT AATGAAGAAA TCATTTATAT TCTTGATTAT  | 1380 |
| 20 | GATGATACAC AGCATATCCT CATGCAAACG TCATCCAAAC AAGGTATTGG CACTTCGCGA  | 1440 |
|    | CCAATCGTTT ATGAGCGCTT AGTATAACTA ATTTAAATGA TTTCACTTCA TAAAGCGGGT  | 1500 |
|    | TGGCGAGAAT TCAATTTCTC ACCAGCTCGT TTTTTCATTG TAATAATAAT CTTTAACATT  | 1560 |
| 25 | TATTCTTTCT CTATTAATTT TTCTCAAAC ATCTTATCTT TATGATAATT AATTAAAATG   | 1620 |
|    | CCCTTTTAAA TTCTTATAAA ATAAAAAAGC CACCTATCGT CGCTAATAAA CGACGCAAGT  | 1680 |
| 30 | GACTTAATAT CATATTCAAA ATAACCTATG GGAATTTAGG GAATTGATCG AAGTCAGGAT  | 1740 |
|    | CACGTTTTTC TTTAAACGCA TCACGGCCTT CTTTCGCTTC ATCAGTTGTG TAATAAAGCA  | 1800 |
|    | ATGTTGCATC CCCAGCCATT TGTGTAAAC CAGCTAAACC ATCTGTGTCA GCATTTCATG   | 1860 |
| 35 | CTGCTTTAAG GAATCGTAAC GCTGTTGGTG AGTGTTCAT AATCTCTTTA CACCATTGCA   | 1920 |
|    | CAGTTTCATC TTCAACTTTC TCTAAAGGTA CCACTGTATT TACTAGACCC ATATCTAAAG  | 1980 |
|    | CTTCTTGTGC ATTGTATTGA CGACATAAGT ACCAAATTTT ACGTGCTTTC TTATGTCCAA  | 2040 |
| 40 | CGATACGTGC TAAATATCCT GAACCATAAC CCGCATCAAA TGAACCTACT TTAGGACCAG  | 2100 |
|    | TTTGTCCAAA AATAGCATTA TCAGCAGCAA TCGTTAAGTC ACAAACAACA TTTAGTACAT  | 2160 |
|    | TACCGCCACC TACAGCATAA CCTTTTACCA TCGCGATAAC CGGTTTTGGA ATAATACGAA  | 2220 |
| 45 | TTAAACGCTG TAAATCTAAT ACATTTAAGC GAGGGATTTG GTCTTCACCT ACATAACCAC  | 2280 |
|    | CATGTCCACG TTTCTTCTGG TCACCACCAG AACAGAATGC TAAATCACCT TCACCAGTTA  | 2340 |
| 50 | ATACGATAAC TGAAACGTTT TGATCATCAC GTGCACGTGA AAATGCGTCA ATCATTTCAG  | 2400 |
|    | CAACTGTTTT AGGTGTAAAC GCATTGCGTA CTTCAGGGCG ATTTATTGTT ACCTTAGCAA  | 2460 |

TCCACATGAA TTGTATGACC TGTAGCAGAA ATTAATTTAC ATTTACTATT AGGAATTAAA 2640  
 TTTGCCATTT TTTTCGCAAT CTGTACAAAT TTTTCATCAT ATTCTCCAGC TAATATTAAT 2700  
 5 GTTGGTACTT TAATTTCTnT CAGCGCGGCC ATAAGTTTGG CATTTG 2746

(2) INFORMATION FOR SEQ ID NO: 327:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 900 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 327:

TAATGTTTAG TTTATTAACA GTAAGTTCGT ATATCAATGT TTAGTGCTCC CAAAAATTGA 60  
 20 AGTTTGAATT TTAAAAGCAT CTTGTAGAAT TTAGTTGTAT TTTTTTCAAA GAAATTCATT 120  
 TTGATTATTT TTGATAATGA GCATTTTAAT AGTAATACAT GTTTATAGTG TGTAGTATAT 180  
 GTCTATACTA GTAGTAACTA TATAGAGAAA GTAGGAATAA ACTATGTCAC AAGATGTAAA 240  
 25 TGAATTAAAGT AAGCAACCAA CGCCAGATAA AGCAGAAGAT AACGCATTTT TCCCATCACC 300  
 ATATTCCTTT AGTCAATATA CAGCACCTAA AACAGATTTT GATGGTGTTG AACACAAAGG 360  
 TGCCTATAAA GATGGTAAAT GGAAAGTATT GATGATTGCT GCTGAAGAGC GATATGTATT 420  
 30 ATTGGAAAAT GGAAAAATGT TCTCTACGGG TAATCATCCT GTTGAAATGT TATTACCTTT 480  
 ACATCATTTA ATGGAAGCAG GTTTTGACGT TGATGTTGCG ACATTATCTG GTTATCCAGT 540  
 35 TAAATTAGAA TTATGGGCTA TGCCAACTGA AGACGAGGCA GTTATAAGTA CTTATAATAA 600  
 ATTGAAAGAA AAATTAAAC AGCCAAAAAA ATTAGCAGAT GTGATTAAAA ATGAATTAGG 660  
 ACCTGATTCA GACTATTTAT CTGTCTTTAT CCCAGGCGGA CATGCTGCAG TTGTTGGTAT 720  
 40 TTCTGAAAGT GAGGACGTTT AACAAACATT AGATTGGGCA TTAGACAATG ACCGCTTTAT 780  
 AGTTACATTA TGTGATGGAC CAGCAGCACT ACTTTCAGCA GGGCTTAACA GAGAAAAATC 840  
 TCCATTAGAA GGATACTCTG TTTGTGTCTt CCCTGactCA TTAGATGAAG GTGCAAATAT 900

(2) INFORMATION FOR SEQ ID NO: 328:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3642 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

|    |   |      |
|----|---|------|
|    | ATCTGAnTnG AGATAGTGAT AATGTGTCAC CcAATTTTaa AcCtTTATTT TTaAGcGtTT | 60   |
|    | CaTCaGCTAA CaCtTCaTTa TcTTAGtCG cTTTATGcCC tTcTATTAAA CtCGGaActA  | 120  |
| 5  | AAAATGaTga CtTTTCAACa CCGAACaCTA AAACaTTGtC tTTTTGATGG CCaTTAGACA | 180  |
|    | CAATTTCCCC TGTtTGCTTC AAAGTAGCTT GCTTCTTGTA TTTATTTTCA ATATCTTTCT | 240  |
|    | TGTtAAAAAC AGATTGTTGC ACAGTTTGAT TGGCATCTTT ATTTAGAACA ATGGCATCTG | 300  |
| 10 | CTTGCCACTT ATCAATGCCT TCTTTATTCA TATTGATAAG ACCATTGCGC AATCCAGATA | 360  |
|    | ATAAAAATAG CAAGTAACTA ATCATCGTTA ACACACCAAT AATTAGTCCA AACTTCAATT | 420  |
|    | TGTTGCGCCG TATTTcATTc CAAGCTAAAA ACATGCATTT CTCTCCCTAC TACTATGATT | 480  |
| 15 | TAAACATTGT TTATATTCTT AGATGCACGT ACGTCGTGTT GCGCTCTGTA ATGTTATACA | 540  |
|    | TACACTTATC CTTCATTATA CCCGAACCTT TTATATTAAA AGCAAATTTA TGGAAAATGC | 600  |
| 20 | AATTAATTGT CTATTATTTT TGTACGGTAC ATTtAAAATT AAGGATCAAT TTAAAAACGC | 660  |
|    | CTACATATAC CTTTAAGTAC ATGTAGACGT CCAATTCATA TATTATTtAA CTTCGCCTGT | 720  |
|    | TTTAGGATCG AATTGCTTAA TAGCATTTTT ACGTAATTTA TCTTTTGCTT TrTCACtTGc | 780  |
| 25 | TTTATAGTTA TTGTTGTAAA TCGTAGCTTC CCAACTACCA TACATTGGGT TAGGGAAAAT | 840  |
|    | GATATATTTc TTACCGAAAT CGTCTTTATG TTTTCAATT AATGCTTCAC GAGATTcAGC  | 900  |
|    | TGTAGCTTCT TTTGGATCTG TAAAGTCTAA TAAATTATCT CCAAATAGCA TGACAAGTTT | 960  |
| 30 | ATGATCCTTT TGAACCATTt GTCTGCGTGA TTCTTTACTC TTATCATCTT TACCTTTTAG | 1020 |
|    | TAAAATATGA CTCTTCTTAG CTTGAGGGAT ACCTTGTTGT TTTAAGTTCT TTTGTGTTGC | 1080 |
| 35 | CTTTAAATCT TTTTCTTTAT CTCTATCAGA AATATAGTAG ATATCGACAC CTTTTTTGTC | 1140 |
|    | AGCATATTTc AAGAATTCTT TTGCGCCATA GACAGGTTTA GCTTTAGCAG cTTGTACCCA | 1200 |
|    | TTcATGCCAA CCTTCTGGGA AAGGTTTATT ATGTATTGAT GCATAGCCTT GATATGGAGA | 1260 |
| 40 | ATTATCTAAA ACTGTTTCAT CTAAATCCAA AGCAATAGCT AACTTATGTT TACCTTTATT | 1320 |
|    | CTTTTTAATC TCTTTATCTA ACTGTGTCTT TGCACTGTtA TAACCTTGTA AATATAATGC | 1380 |
|    | TTTTGCTTCA GCTGAATTTT GATACCAAGC CACTGCCATA ATATTTTGAT TACCAAGATT | 1440 |
| 45 | CGCCTTTTGT GATGCTGGTA TAGAAGCTTG TTGCGTTTGT TGAACCTCAG CAGAACTTTT | 1500 |
|    | GGCAAACGCT GTAGAATTTG TCGTTTGTGG TGCTGAAACT GTAACCGCTA CCGATAATGA | 1560 |
| 50 | TGCTATTGCA ATATACTTTG AAATTTTATT CATCTTATCA CCTCATGATT AATATTtAAA | 1620 |
|    | ATACAGTTAA AATTATAAAT GCATTTATTT AATATTGCTA TACTATGAAA AGATATTtAA | 1680 |

|    |            |            |             |            |            |            |      |
|----|------------|------------|-------------|------------|------------|------------|------|
|    | GTGACTAGGC | CTTCCTATCA | GACATAITCA  | CTCATCCACG | TATCATTATG | TGTACAGTGT | 1860 |
|    | GCTATCTCTT | ATTTACCTAT | TGGAACAACC  | ATAAACTCAT | CCATAGTTTA | CCTTTTATAA | 1920 |
| 5  | ATAGCAGTCC | TCACTCATAC | AATTTCTCAT  | AAAAATCACA | ACGCTCCAAC | GTATTTCCAA | 1980 |
|    | CTTACTTTCA | CCTATTTTAA | TTCATAAAAA  | CGACACTTTA | ATTGTCATTA | TCCAATAATA | 2040 |
|    | GCAAGACGTT | ATTATTGCAA | TCTTTTTTAT  | AAAATAATAG | AATCATAGTA | TTGTCATTTA | 2100 |
| 10 | AAGATAAAGT | AAGAACGTTT | TTATTTTTCA  | GATTTTTTAA | ATTATTATGA | ATATCTAGTT | 2160 |
|    | TTAGGAAGGA | AATTACATTG | AAAAACAAG   | TTATTATTTT | GGGCCTCATG | TTATTTTCAC | 2220 |
| 15 | TATTTTTTGG | AGCCGGAAAT | TTAATATTCC  | CGCCCATGCT | TGGCCATACA | GCGGGTCAAA | 2280 |
|    | ATATGTGGAT | TGGTATGCTA | GGCTTTGCCC  | TTACAGGCAT | AThACTCCCC | TTTATTACTG | 2340 |
|    | TTATTGTTGT | TGCATTTTAT | GATGAAGGTG  | TTGAAAGTGT | AGGCAATCGT | ATACATCCAT | 2400 |
| 20 | GGTTCGGGTT | TATTTTTGCT | GTCGTGATTT  | ACATGTCTAT | CGGAGCATTT | TACGGTATTC | 2460 |
|    | CACGTGCTGC | AAATGTCGCG | TACGAAATTG  | GTACAAGACA | CATTTTACCT | GTGCATAACC | 2520 |
|    | AATGGACTTT | AATTATATTC | GCAGCAATCT  | TTTTTGCCAT | CGTTTACTGG | ATTAGTTTAA | 2580 |
| 25 | ATCCATCGAA | AATCGTTGAT | AATTTAGGTA  | AATTATTAAC | ACCGTTATTA | CTATTAATGG | 2640 |
|    | TCGCTCTATT | AAGTATTGCT | GTCATTTTCA  | ACCCTGAATC | TGCACTAAGT | GCACCTAAGG | 2700 |
| 30 | ATAAATATAT | AACACATCCT | TTCAATTCAG  | GAAGTTTGA  | AGGCTATTTT | ACAATGGATC | 2760 |
|    | TTGTTGCTGC | GTTAGCTTTT | TCCGTAGTCA  | TTGTCAATGG | CTATAAGTTT | AAAGGCCTCA | 2820 |
|    | CAGATCGCAT | GAAAATTTTA | AAATATGTCT  | GCTTTTCAGG | TCTTATTGCA | GCCATATTAC | 2880 |
| 35 | TTGGAATGAT | TTACTTTGCA | CTTGCAATCG  | TTGGGGCATC | AACAGCTCCA | GGAAACTTTA | 2940 |
|    | AAGATGGTAC | AGATATATTG | ACGTACAAC   | CATTACGATT | ATTTGGTTTC | TTCGGTAACC | 3000 |
|    | TCGTATTTGG | AATGACGGTT | ATCCTTGTCAT | GCCTAACAAC | ATGTATAGGA | CTCGTcAATG | 3060 |
| 40 | tTGCGCCACA | TTTACTAAGA | AACACGTACC  | TAAGTTTTCT | TATAAAATAT | TCGCACTTAT | 3120 |
|    | TTTctCTATC | ATAGGGTTCT | TATTTACAAC  | ACTTGGTTTA | GAAATGATTT | TAAAAATTGC | 3180 |
|    | TGTCCCATTA | TTGACTTTAA | TATATCCCGT  | GTCGATTGCA | CTTGTAATCA | TATCATTTGC | 3240 |
| 45 | TAACATGTTT | AGCACATTCA | GATTCAGTTG  | GGCCTATCGA | CTCGCAACTG | TTATTACATT | 3300 |
|    | GATTATTTCA | ATTTTACAAA | TACTAAATAG  | TTTCAACTTA | TTACACGGTG | TTATTTTGAA | 3360 |
| 50 | ATCGTTTATG | ATGTTACCTT | TAGCAGATAT  | CGATTTAGCT | TGGCTTGTA  | CATTCATGCT | 3420 |
|    | CTTTGCTATT | ATCGGTTTCA | TAATCGATGT  | ATTTATACGC | CGTCCGAAAC | AAGCGACAAC | 3480 |
| 55 | TTAATAAATG | CTCACTGCCT | AGTAATGATT  | GACCCATCGT | TACTAgGCTT | TTtATATGA  | 3540 |

TAAAAAATCC TAGCTGTTAT TCAAAAATAT TAGTTTTTAA AA

3642

(2) INFORMATION FOR SEQ ID NO: 329:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2187 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 329:

|    |  |      |
|----|--|------|
| 15 | TTATTGATAT TGAAAATTCA AAAACTGCAA CACATCTTAT CACTAAAAAC CAACACTATC  | 60   |
|    | ATCAAAGTGA CACTCATTTT GAACAGTATA AGAAATTTAT TTTAGATTCA GGTATATCAT  | 120  |
|    | CAACACAATT TGTATATAAT AACCTGTCTG TAAGCGGATT TAAATATACT AATGATGGTA  | 180  |
| 20 | AGAATCCAAT TCAATTATCT GACATAGTGT ATCACTTAAT CGCATTATTA CGATATGGCG  | 240  |
|    | GTGGCATTAG CTATCAATTA TTAGATGACC ATTCAAATTA TATTTCTTGT TACAACAAAT  | 300  |
|    | ATGGTAGCCC CCTACCATTG ATGCATTTAT ATAAAATGTT TAGACCTTTT GTTAATGAAG  | 360  |
| 25 | ATATTGAAAT TACAAATAAT TATGTATTGA GTCGTAAAGA TAATAACTAC CATTTCCTTAT | 420  |
|    | TATTCAATAA AATTAATGAT CGATATATGT CAGACGTAAA ACAAGATTTC ATTTTCCATA  | 480  |
| 30 | ATGAATTACC TCAAGACTCT TTGATGATTA TTAAACATT GAATCATGAA CATGGTTCAA   | 540  |
|    | TTCAACATTT GCTTCCAATA AGCGATCAAC TTGTTTATAT AGAAAAAGAA ATTTTAGATG  | 600  |
|    | AATTAGACAA AACGAATTAC CCTAAAACGG AGCTTGCACT TCAAGAAGAA ACTGGTCTGA  | 660  |
| 35 | CATTTGAACT CAAGTTAAAT CACGACGAGG TTAAATATAT TTGCTTTAAA CCAAGCTAAA  | 720  |
|    | TACTAACAGT CCTCTTGTGT TTAGTTTCCT ACGTTAAAGG CTATTTATAT CATAAGGAGA  | 780  |
|    | TGATTTGTAA TGAGTAACTC ACAAGCAATT CAAGCAATTG AAAACGTGTT AGTAACGTCA  | 840  |
| 40 | AAAGTTGGTG TATTATCAAC TGCATATAAT AATAAACCTA ATAGTAGATA TATGGTCTTT  | 900  |
|    | TATAATGATG GTCTTACTTT ATATACTAAA ACGAATATCC ATTCTGCTAA GGTCAAAGAA  | 960  |
| 45 | ATTAAAGATA ATCCAGCAGC ATATGTTTTG TTAGGCTATA ACGACACAAC TAATCGTAGT  | 1020 |
|    | TTCGTTGAGA TGGAAGCGAC AATCGAAATC GTTACAGAAC AAGAAGTGAT TGATTGGCTA  | 1080 |
|    | TGGGAAACAC AAGACAAAAG CTTTTTCAGT TCAAAAGAAG ACCCAGAGTT ATGTGTTTTA  | 1140 |
| 50 | AGAGTAGTTC CGCAATCCAT TAAGCTAATG AATGATAAAT CATTAGATAC ACCTATCAAA  | 1200 |
|    | ATCGATTTAT AACACAAAGT GTATATAGGA AATAACTTTT ATGAATTCTA GATATAACAA  | 1260 |

TTTAAATTAA TTTTATGTAA TATAAATACT GCATTTGCAA ACTGTTGCAC TTTTAGGTAT 1440  
AACAGAATTA ACTACATTTA AGGAGATTGA TGAACCATGA AAAAGAAAAA AGGTTTTGGT 1500  
5 CTTGGTATTA GTTTAATCGC CATCATGTTA ATTGTATGTA TTGTATTAGT AATCATGATG 1560  
ATGACTGGCG GAAAGAAAGA TACATACTAT GGAATTATGA AAGATAATAC TACTATTGAA 1620  
AAAATGATTA GTGAAAAAGA TGAAAGTATT GAAAAAAATG TTAAATTACC TTCAGATTCA 1680  
10 GATGTTAAAG TTAAAAAAGG TGATTTTGTA ATTGTTTATA AATTAGCAGA TTCAGATAAA 1740  
ATTGTTAAAG TTAAAAAAGT TGACCATGAC GATGTACCAC ATGGTTTAAAT GATGAAAATT 1800  
CATGACATGG GCAAAATGCA CATGAAACAC TAATTGTAAT TTAAATTACA AATTTTAGTT 1860  
15 GCCATCAAGG TATATACGAG TAAAAGCAGC GGTAAGTTGA TTTCCAATTT GGAATCATTT 1920  
TACTGCTGCT TTTTATATTT GAAATACTTT CATATTGAAT AGCTCCACTT GCCGTTTCGCC 1980  
20 TgcgCTTTGC GCATGCATAA AAGCCCCTAA CAACCTGAGG TCACTGCGCT CCGGTTTCGCC 2040  
TGcgCTTTAG CGCATGCATA AAAGCCCCTA ACAACCTGAG GTCACTACGC TTCGGTTTCGC 2100  
CTGCGCTTTA GCGCATGCAT AAAAGTCCCT AACAACCTGA GGTCACTACG CTTCCGTTTCG 2160  
25 CCTGCGCTTT AnCATGGCCA TAAAAGC 2187

## (2) INFORMATION FOR SEQ ID NO: 330:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1788 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 330:

CCnCCTTTTT AAACCTGGnG AAATGtmCAG tTTTGATGGt ATTGGGtTCT TTAGTATTAT 60  
40 GCTTAAGATA GAGTGTAATA CGCTCCTGTT GTTCTTTATA GTATATTGCT TTTTGTTTTT 120  
CTTTTTCGTC ATATTTCACT TTAAATAAA TGACTGATGC AACTATACAT ATACATAAAA 180  
TGACACCAAT AATTATAAAA ACATGTTTTT GTTTCATTAA AGTAACTCCT AAAATGTGGT 240  
45 GGAAATGAA AAAATTTTTA TAATCTATAA TTATGAACAT TACAGATTAT AAACCATAAC 300  
ACTAACATCG TCGCCTTCAT TAACTTGATT GTTAAAATCA GCAATTACTG AGAATTGTAC 360  
50 AAGGAATAAT TGCCTATTAT GCCCTCATGT AATTATTGCC TTACTAACAT TAACAAAATC 420  
GATAGCTATT ACATTAAATG CCTATACCCC AGACCTCAAA CACCTTTTTA TACAGGACGC 480  
ACTGTAATTT CATyyACGTT AACGTGCTTT GGTTGTGTTA ATGCATATAA TACTGCTTCT 540

GTATCTACCA TTCCTGGAGA AATGCTTGTT ACTTTAACGC CTGTCTTTGC CAACTCTTTT 660  
 TCTAATCCTT GAGTAATAGT GTGAAGTGGT GCTTTTCGTG CACTATAAAT CGTACTACTT 720  
 5 TTCGTTACTT CAAAGCCAGA AATAGATGcA ATGTTAATAA GATGGCCACT TGATTGTTCT 780  
 AACATAGTTG GTAATGCAGC CTGTGCCGTA TATAAAGTGC CTTTGATATT CACATCAATC 840  
 ATACTATCCC ACTCATCTAC TTGATAATCA GTAATCTTAG ACGACAACAT TTGCCCCGCA 900  
 10 CTATTGATAA CAATATCCAA ACCACCGAAT GTTTGTTGTG CAATTTTTAT CAATTCATCG 960  
 ACTTCTTCTT TATTCGTTAC ATCTGTTGGC ACTACCTTCA CACTATCTTG TGACAATTGA 1020  
 15 TTCGCTACGT TTTGTAATTT TTCTTTATTT CTACCTGCTA AGACAACCTT TGCCCCCTTCT 1080  
 TCATGTAGTA ATGTTGCAAT TGCTTCTCCA ATACCACTAC CTGCACCTGT AACTACTGCT 1140  
 ACTTTATCTG TTAATACTGT CATAATGATC GACTCCTTTG ATTCTTTTTA TTTTTTCAGG 1200  
 20 GTAAATCATA AATACATATT ACTTTTAAAA AGCGTATCAC AATTCATATA ACGGTCATAA 1260  
 TAACTCGCTT CATTTTCATA GATAAATTAC ATTACAAGCC ATTCGAAACA TACAATTAAT 1320  
 CGTTGCTTAT ATTTTTTATT TTTAAAAATG TTGAAAAATC GTCATTCTT TATTGTAAAA 1380  
 25 ACATTATATT AGTAATAAAG TTAATACTGT GnATTTaTCA TTCGATTGAA TGATTAGAGG 1440  
 GAGGAATAAA ACgTGACATA TCATGAGCGT GTTTTAGCAT TAAGAGCAGA AAGTAAAAGA 1500  
 ACCGCATTTG ATTTTCGATT CGAAGATTTA TTTAGCAAAG AAGAATGGcT AAGTATGTCT 1560  
 30 CTTGCAGAAA GACAAAAAGC TGAAAAAGCA TTTGACACG AgTTAAAAAT ATGGACGATG 1620  
 TAAGAATGCC CTTCTCAAGT GTCCATGACG CCCAAGTAAA ATTATATAAT GTTGATATATT 1680  
 35 CTTATAACGG CaTTAAACGT AATTTTAAAC AAGTTGAAAA TGGAAGGATT CTAATATCAT 1740  
 TTCGTTTATA TATnGCAGAC CATGGATAGA ATTTTnTATG GTnAATCC 1788

(2) INFORMATION FOR SEQ ID NO: 331:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1341 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 331:

50 TAAGCCAAAT CCATTGTTAC CAGAAGAAGT TCGCTTCATC TTAAACAAA TGGGTCTTAA 60  
 AGAAAAGACT ATCGATGTTG AACTCGAAGT TGGCGAGCAA GTTCGTATTA AATCAGGTCC 120

|    |   |      |
|----|---|------|
|    | GCTTTAATTA ACAATTAAAG TTATTAACT AACCAAAAGA TAAAAAAGAG TATTGATTTT  | 300  |
|    | TTAATTAGAA AAGTGTTAAA ATTATGTGGT cGcGCTTTTA GAGCGCCCAT TTCGTcACGA | 360  |
| 5  | AATGTTAAGA GTGGGAGGGC AAAACTGAGC CCTGTGACCA CATCACGATA TCAAGGAGGT | 420  |
|    | GCACATCGTG GCTAAAAAAG TAGATAAAGT TGTTAAATTA CAAATTCCTG CAGGTAAAGC | 480  |
| 10 | GAATCCAGCA CCACCAGTTG GTCCAGCATT AGGTCAAGCA GGTGTGAACA TCATGGGATT | 540  |
|    | CTGTAAAGAG TTCAATGCAC GTACTCAAGA TCAAGCAGGT TTAATTATTC CGGTAGAAAT | 600  |
|    | CAGTGTTTAT GAAGATCGTT CATTTACATT TATTACaAAA ACTCCACCGG CTCCaGTATT | 660  |
| 15 | ACTTAAAAAA GCAGCTGGTA TTGAAAAAGG TTCAGGCGAA CCAAACAAA CTAAAGTTGC  | 720  |
|    | TACAGTAACT AAAGATCAAG TACGCGAAAT TGCTAACAGC AAAATGCAAG ACTTAAACGC | 780  |
|    | TGCTGACGAA GAAGCAGCTA TGCGTATTAT CGAAGGTACT GCACGTAGTA TGGGTATCGT | 840  |
| 20 | TGTAGAATAA TTTTACGAAT ATTAAATTTG ATTACATGAT TTAAACGATG AAGCAGATAA | 900  |
|    | CAGAGATAAT AATGATGAAT TATAAATATA ATCTGAATGA CTAGATTAAT GATTGATTTA | 960  |
| 25 | TTCATAAGAT TAATTCTTCT GTTGTCTGcy CTTAACTTGC ATATAGCAAG TAATGTGGGA | 1020 |
|    | GGAAATTCCG CTAAAACCAC TAAAGGAGGA ACTATAAATG GCTAAAAAAG GTAAAAAGTA | 1080 |
|    | TCAAGAAGCA GCTAGTAAAG TTGACCGTAC TCAGCACTAC AGTGTTGAAG AAGCAATTAA | 1140 |
| 30 | ATTAGCTAAA GAAACAAGCA TTGCTAACTT TGACGCTTCT GTTGAAGTTG CATTCCGTTT | 1200 |
|    | AGGAATTGAT ACACGTAAAA ATGACCAACA AATCCGTGGT GCAGTTGTAT TACCAAACGG | 1260 |
|    | AACTGGTAAA TCACAAAGTG TATTAGTATT CGCTAAAGGT GACAAAATTG CTGAAGCTGA | 1320 |
| 35 | AGCAGCAGGT GCTGACTATG T   | 1341 |

## (2) INFORMATION FOR SEQ ID NO: 332:

## (i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 5136 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 332:

|    |   |     |
|----|---|-----|
|    | CTCTAAATCT TCAATAGGTA ACTTCATTTT AATAATTCCC ATTTGAACAA TTGCTTCTTC | 60  |
| 50 | ATCATTGACA ATTTCTAAAA CTTCAACCTT TTGACCGTAA GAKAATACTT TkACTTCATC | 120 |
|    | ACCAGCAACA ATTTTATCGT ATTTTGTCTT TTGTACATTT TGCTTTATAG ATTTGCTTC  | 180 |
| 55 | ATAATGATCA TCTAATCGTT TCTTCTTATC AATCAATTCA TGTTCTTTAA CATCTGCACC | 240 |

|    |            |            |             |            |            |            |      |
|----|------------|------------|-------------|------------|------------|------------|------|
|    | CTTAATCTTC | TGATTTGCTT | TKTCTTTCGC  | TTCCTCTATT | AGAGACTTTT | CATAATTTTG | 360  |
|    | GAATTGTTGA | TACTGCTTAG | ATAAATCATC  | ATGCACTTGT | CCGCKTsKTT | TACAAGACGG | 420  |
| 5  | TCCAGKCTA  | ACCTCTGTGT | CTCTACACGT  | TTGTAATTAC | GCTCTAATGA | TTCAATCATT | 480  |
|    | TCATTTATTT | CTTTTTCATC | AGTACCAATC  | ATCGTCTTAG | CCTTATTAAT | AATATTCAAA | 540  |
|    | CTAAGACCTA | ACTTTTTAGA | AATGTCAAAA  | GCATTTGAAC | GACCCGGCAC | ACCCATTAAT | 600  |
| 10 | AACTTATACG | TTGGACTCAA | AGTATCTACA  | TCAAATTCTA | CACTCGCATT | CATAACGCCT | 660  |
|    | TCTCGATTAT | AACTATATGC | TTTAAGTTCA  | GGATAGTGCG | TCGTTGCCAT | TACTAGAGAA | 720  |
| 15 | CCAATTTTTC | TAACATGATC | TAAAATGCTC  | ATTGCTAATG | CAGCACCTTC | ACTCGGATCT | 780  |
|    | GTACCTGCAC | CTAATTCATC | AAATAAAACT  | AACTATGTT  | TGTCTGCATG | CTTTAAAATT | 840  |
|    | TCAACTATAT | TCGTCATATG | AGATGAAAAA  | GTTGATAATG | ATTGTTCTAT | TGATTGTTCA | 900  |
| 20 | TCTCCGATAT | CGCAATATAC | ATTTTTAAAT  | ACACTTAACT | GACTACCATC | AAGTGTGGGA | 960  |
|    | ATCAACAATC | CTGATTGAGC | CATAACAATA  | ATTAAACCTA | ATGTTTTTAA | TGTTACAGTT | 1020 |
|    | TTACCACCTG | TATTCGGTCC | TGTAATAATT  | ACCGTTTCAA | TATCTTCCAT | AAATTCGATG | 1080 |
| 25 | GTATTAGCTA | CAACAGTCTC | ACGATTTAAT  | AATGGATGGT | ATGCTTTAGG | TAAATATACA | 1140 |
|    | GTACGGTCCT | CTTTAAATAT | CGGCTTTGTT  | CCTTTAATAC | TTCTACTATA | TCTCGCTTTT | 1200 |
| 30 | GCGATTAAAA | AATCTAACTG | ACCCATGACT  | TGTTCTGCCA | CAAGTAGTGC | ATCTTTGTCC | 1260 |
|    | GCAGCCACAT | AACCAGTTAG | TTGCGTTAAA  | ATGCGTTCTT | TTTCAATTGC | TTCGTCATGA | 1320 |
|    | CGTAATCGAC | TAATTTGATT | ATTCAATTTCA | ACAACTGATG | ATGGCTCAAT | ATACAATGTT | 1380 |
| 35 | TGTCCTGAAG | CAGATTGATC | ATGTACAATC  | CCATTAAAT  | CTTGTCGATA | TTCAGCTTTG | 1440 |
|    | ACAGGTATAA | CGTTTCTTTC | ATTCCTAACT  | GTTACAATAG | CATCTGATAA | TTTTTTCTGA | 1500 |
|    | TTTGCTTGGC | TTTAAACAAT | ACGGTCCAAA  | TTTTGTCTAA | TACGTTGATT | CGTGCTAGAA | 1560 |
| 40 | ATTTTACTTC | TAATCCCTTG | CAATTCATAA  | CTCGCATTAT | CATATAAATC | ATACGTATCG | 1620 |
|    | CATGTTTCAT | TTATTTGTTG | AAAAAGATCA  | GTAAACACAG | GTAATTGATT | CATCTTGTC  | 1680 |
| 45 | TCTAATATTG | GGTATTTAAC | ACCTTCATCT  | TCTTCAACCA | ATTGATTATA | AAATGTCTTG | 1740 |
|    | AATTGATTTT | GTAATTGAAT | TAATCTTTTT  | ATCAAGTTAA | GCTCTGATAC | ATTTAAAACG | 1800 |
|    | CCGCCAATAT | CAGCGCGATG | AATGAATGCT  | GATACTTTAG | ATAAGCCACT | CAAGCTTGGT | 1860 |
| 50 | AAACGATGCT | TATTATAGAT | TTGAGCAATC  | TCATCCGTTT | CTTCCATTTG | AAAAACAACC | 1920 |
|    | GTTTCAAAAT | TAGTAGCTGG | CATCATTTGA  | TTGACCTTTT | CCAAGCCTAA | GTCACATAA  | 1980 |

|    |            |            |            |            |            |            |      |
|----|------------|------------|------------|------------|------------|------------|------|
|    | TCACGCGATA | ATGCGTTAAT | CACTCTATCT | TTTGTtACAA | ATCCTTTTTG | CGCAGTTGtA | 2160 |
| 5  | CGCCATAATT | CATAAAATCT | AAATGATTTG | TATGATGCGC | ATCAGTGTTA | ATAGTTAATT | 2220 |
|    | TCACATTTGG | ATATTTACGA | ACGATATCAG | CGCTCAGATC | CAGTCGATGT | GGATTGGCAT | 2280 |
|    | TAATTTCTAA | TACTGTATTC | GTTTCTTCAG | CTAATGCCAT | TAATTGTTCA | ATATTCGGTT | 2340 |
| 10 | TATAACCATC | TCTTCTACCT | ATAATACGCC | CTGTTGGATG | CGCTATATGT | CGCACGTATG | 2400 |
|    | GATTGCGACA | TGCATTAGCT | AATCGTTCCA | TAATTTGTTT | TTCTGATTGG | TTAAAGCTTT | 2460 |
|    | GATGAATAGC | TCCAATTACA | TAATCAAGTT | GTGCTAAAAT | TTCATCATCA | TAATCCAGCG | 2520 |
| 15 | AGCCATCAGG | TAATATATCC | ATTTCTGTAC | CTGAATAAAT | ATCAATTTCA | CTATATTCTT | 2580 |
|    | TATCTAAAGC | CTTAATTTCT | TCGTTTTGTC | TTAAAAGTCT | TTCTACTTGT | AAGCCATTAG | 2640 |
|    | CAACACGTAA | ACTTTGTGAA | TGATCAGTAA | TTACCATGAA | TTTATAACCT | TTTGCGATAT | 2700 |
| 20 | TTGCTTCTAC | CATGTCTCGA | ATAGAAAACG | CACCATCACT | ATACGTTGTA | TGCATATGAA | 2760 |
|    | TATCACCATT | AATATCATCT | ATTGTAATGA | TATTACTTAG | ATCTTTATCA | AATTCGCTAC | 2820 |
| 25 | CATCTTCTCG | CATAGCAGGT | GGTATAAAAT | TCACATTAAA | ATGTTCATAT | ATCTTGGCTT | 2880 |
|    | CACTATCATA | TTGAATTAAT | GTACCATCAG | CTTGTTCAAT | TCCATATTCA | CTTACTTTTT | 2940 |
|    | CATCACGTGC | TTTAGCAAGT | TGTCGAATTC | TTATATTATG | TTCTTTTGAC | CCAGTAAAAT | 3000 |
| 30 | GCTGCAATGT | ATGATAAAAA | GCACTTGGTT | CAATTAATCG | AAAATCGACA | CCAATCGTTT | 3060 |
|    | CATCATCATA | CGCTAATTCT | AATGAACTT  | TTGTGTTCCC | CACTGCAACT | TCTTTTACTT | 3120 |
|    | TATTGGGAAT | ATTTAATAAT | TGCTGCTGCA | CTGCTTTTGG | GTTATCGGTA | CTTATTATGA | 3180 |
| 35 | AATCTAAATC | TTTGCTCATT | TCTTTAAAAC | GACGGAAGCT | TCCTGCAGAT | GAATATTGAT | 3240 |
|    | CGATATAATT | TAATGTATCT | ATATAATCAA | TGATTTCTTG | ATTAAGTCTT | CTCATTTGAT | 3300 |
|    | CAATTGGATA | TCTATCTTTC | TTAGCACCAA | GTTGTTTCAC | AGCTTCTAAT | ATGTTTTGTT | 3360 |
| 40 | CCGTTTTCTT | AGCAAATCCG | CTTAATTCAC | TAACTTTTCC | ATTTTCACAA | GCAACTTGAA | 3420 |
|    | GTGACGCTTT | ATCAACAATA | TTCAACTCTT | TATATAGCTT | AGCAATTTTC | TTGCTTCCAA | 3480 |
| 45 | GTCCTTGAAT | TTTCAAAAGT | GGAATAAGAC | CTTCCGGAAC | TTCTTCCTGT | AATTGCTGTA | 3540 |
|    | AATACTGAGA | TTCAACGGTC | TCACGGTAAT | CATTGATTAC | TTCTGCAACA | CCTTTACCAA | 3600 |
|    | TGCCTTTtAA | CTCCGTtACA | TCAGATATTT | CATCTAATGG | TCGTTCATCT | AATTCAAGAC | 3660 |
| 50 | TTTGAGCTGC | TTTTCGaTAC | GCTGaTATTT | TAAAAGTATT | TTCCCCTTTT | AATTCCATAT | 3720 |
|    | AAGTAGCAAT | TTGTTCTAAT | AGTTTGATAA | CATCTTTTTT | TGTCATAATA | ACACTCCATA | 3780 |
| 55 | AAAAGAAGAC | CAGGACGTAT | CATTAATATA | TACCTTTGTC | CTGACCTCTT | ATGATAATTT | 3840 |

TAGATATTTT AAGCTGATGT TGTAAATGCTT CGTTAGGATA TAATGCCAAT AGATATAACG 3960  
 TAAAGTGTA GACAATTATC GTCATAAACA CACCAACTAT CATTCCCATT GCACGACTGA 4020  
 5 AAATATGAAT GTTTTGATAC GCTATTATTT TATCAAAAAGT TACGATAATT AGATATAAAA 4080  
 TGAACCTACA AAACAATGTA ATCATTAAAA AAGCTACAAT CGCTTCAAAT CGATTTTGTA 4140  
 GATGATTAAA ATGAAACGCA AAAGTTGTAT TAAATGCTGT TGTTTTAGGA TATGGAATAA 4200  
 10 ATACAATTAA TCTTCTACA ATAGATTTGT AAAATTGACT GGCAATCCAC AATGATACAA 4260  
 nCGTTGCACT CAAATGTATC ATAGATAACC AAAAACCTCG TCTGAATCCA ACGATGACAA 4320  
 AATACACAAA GAAAATGATT ATGATAAAAT CAATGACCAT TTATTGCTCA CGCTGCTGCA 4380  
 15 ATTTGTGAAT TTGTTGTTTC AAACGTCGAT TTTTTTCTT CTAGTAGTAC TTTTTCATGC 4440  
 ATAATATTCA CAGCAGTTAG TATTGCTTTT CTTGAAGTAT CTAAACCTGC TGCTTTATAC 4500  
 CCTAATTCTT TTATTTTATC ATCAACTAAA TGTGCTACAT ATCGTATGTG CTCTGGGTTA 4560  
 TCTTCCCCAA CAATTGTAAA AAGCTGATCA TTAATTGATA CATTACCTT GTTTTAAAC 4620  
 TGTGTCATTT ATAATTTCTC CTGATCCTTT TTTTAAAATC TAAATTCACG TTATAAAATA 4680  
 25 TGACTGGATA GTTTGTCTGA ATTTGATACT AATATTGTTA TATTGCAATT ATGATAAAAC 4740  
 AACAACACAA TCTCTATAGA TGACTTAATG TTCTTTTAT AATGAAATAA TGTAAGAAT 4800  
 TTTCTATTCA ATACTTTATC ATGTTTAAAT TGTGTCAC TAACATTTTC ATAAACATTA 4860  
 30 TACATGACCA CTATGTATTT TGTAAGTATC CGCAATTAAT TCTTTACAAC ATACATAAAT 4920  
 GTTTCTGACG TTATTATCAT TTATGATATG ATTATTTTGT CTAAAGACAA TGAAATTTTA 4980  
 TGAAAGGATT TACACAAATG GCGAATATCG TTTTAAATT GTCGGATAAA GACATAACGA 5040  
 35 CATTAATGTC ACGCATTTCT TTTGATACTG AGAATTTACC TCAAGGnATG AnAGCACGTG 5100  
 CAAAGTATCC AAAATACAAC TGTAATATT TACCAT 5136

40 (2) INFORMATION FOR SEQ ID NO: 333:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 4239 base pairs  
 (B) TYPE: nucleic acid  
 45 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 333:

GGCCAAAATT GCACCTCCAC TTCCTTTGA ACAAATCTAT TTAAACGCA CATTCCCATT

60

|    |            |             |            |             |            |             |      |
|----|------------|-------------|------------|-------------|------------|-------------|------|
|    | GGTATCTTTC | AAAGATAAAA  | TCTTAATAAT | TTCTTAGTAA  | ACTCTTTTCT | CTAGATTTAT  | 240  |
|    | CACAATATTA | TATAGACCTA  | TTTTATTTTG | ACGTAAGTTG  | CTAGTATCTT | CAAAACAAAA  | 300  |
| 5  | ACCTTTATAA | AAATTCATAC  | CTTTATGCTA | TCGCTGTAGG  | CTCATTAACT | TGTTACATAT  | 360  |
|    | AATTCTTAAC | TATCCTTTGA  | TGATTGTTTT | ATTAGATTGT  | TTCGTTGATG | GATACTTTCA  | 420  |
|    | CGAATTTCTA | TAGTTCAATG  | CTACTAAAAA | AACAGCCCAA  | AACTTTAATT | TGTTTTGGAC  | 480  |
| 10 | TGTTTTATAA | TTATGCTTGC  | GATGGTGTTC | TAGTTTCTGA  | AGTTTGTTCA | GCAATGTCAT  | 540  |
|    | ATTTAAACTC | TTTACCATCA  | TGATCTACTG | TAACCTTCTT  | ACCTTCAATT | TGATTACCAT  | 600  |
| 15 | CTAATATTAA | TTCACTTAAA  | TTATCTTCGA | TAGTTTTTTG  | TATCGCTCTA | ATTAATGGTC  | 660  |
|    | TTGCACCATA | TTCTGGATCA  | TATCCTTCTT | CTGCGATTTT  | GTCTTTCGCT | TTATCAGTTA  | 720  |
|    | CAATAATATT | TATGTTTTGT  | TCAGATAATC | GATTTGTTAA  | TTTATTAAAC | ATCATTGTTA  | 780  |
| 20 | CAATTTCTTT | TAATTCCTCT  | TTTGTTAGTT | TATGGAATAC  | AATGATATCA | TCTACACGGT  | 840  |
|    | TTAAAAATTC | TGGACGGAAT  | GAATTTTTTA | ATTCTTTTAA  | CATCGTTTTT | CGAATTGTTT  | 900  |
|    | CATAATCTTG | TCCATCACTT  | GAACCACCGA | ATCCAGCAAA  | TCGTTGATCT | TGTAATTCTT  | 960  |
| 25 | GTGCCCCAAC | GTTTGATGTC  | ATTATGATAA | TTGTATTTCT  | GAAATCAACT | GTACGTCCTT  | 1020 |
|    | TTGTATCTGT | CAAATGTCCA  | TCATCTAAAA | CTTGTAATAG  | AATATTAAAT | ACATCTGGAT  | 1080 |
| 30 | GAGCTTTTTT | AATTTTCATCA | AATAAAATTA | CAGAATATGG  | TTTACGTCTA | ACTTTTTTCAG | 1140 |
|    | TTAATTGTCC | ACCATCATCA  | TGACCAACAT | ATCCTGGAGG  | AGCACCAACT | AATCGGCTCA  | 1200 |
|    | CTGCGTGTTT | TTCCATAAAT  | TCACTCATGT | CTACACGGAT  | CATCGCATCA | TCATCGCCAA  | 1260 |
| 35 | ACATTGATTC | AGCTAAAGCT  | CTAGCTAATT | CAGTTTTTACC | AACACCAGTT | GGTCCAAGGA  | 1320 |
|    | AGATAAAGCT | ACCAATTGGT  | CGTTTAGGAT | CTTTTAAACC  | TGCACGGGCA | CGTCTAACCG  | 1380 |
|    | CTTTACTGAT | TGAATTAACA  | GCATCTTTTT | GCCCAATAAC  | TCTCTCATGT | AATGTATCTT  | 1440 |
| 40 | CTAGACTAAG | AAGTTTTTCA  | GATTCTGTTT | CATTGATTTT  | AGTTAATGGG | ATACCTGTCC  | 1500 |
|    | ATCCTGCAAT | AACTTCAGCA  | ATATCTTCTT | CTGACAATGA  | AGTTGaCATG | CCATTTTGTG  | 1560 |
|    | CATTCTTCCA | TTCATTTTTA  | GCTTCTTCAT | ATTGCTTTTC  | AAGTTTTGTT | TGTTTATCAC  | 1620 |
| 45 | GCAGgTTAGC | AGCATTTTCA  | AACTCTTGAG | CATGTACTGC  | GGCATCTTTT | TCATTTTTAA  | 1680 |
|    | CTTTTTCAAT | TTCTTGTTCA  | ATTTCTTTTA | AATTATTAGG  | TGTCGTATGA | CTCTTAAGTC  | 1740 |
| 50 | TTACTTTAGA | ACTTGCTTCA  | TCAATTAAAT | CAATTGCTTT  | ATCTGGTAAG | AAACGATCTG  | 1800 |
|    | AAACGTATCT | GTTACTTAAT  | TTAACAGCTG | CTTCAATAGC  | TTCGTCTGAA | ATATTAATAC  | 1860 |
|    | GATGGTGTGC | TTCGTAACGA  | TCTCTTAATC | CTTTTAAAT   | AGCAACTGTA | TCTACTACTG  | 1920 |

|    |             |                |               |             |             |              |      |
|----|-------------|----------------|---------------|-------------|-------------|--------------|------|
|    | TTTTGCGATA  | TTCATCTAAT     | GTAGTAGCAC    | CAATACATTG  | TAATTCACCA  | CGTGCTAAATG  | 2040 |
|    | CCGGCTTCAA  | AATATT CGAA    | GCATCGATAG    | CACCTTCAGC  | ACCACCAGCA  | CCAACTAAAG   | 2100 |
| 5  | TATGCCAACTC | ATCAATAAAT     | AGGATGACAT    | TACCTGCTTG  | TTGGATT TCT | TCCATAACCT   | 2160 |
|    | TTTT CAGACG | CTCTTCAAAT     | TCACCACGAT    | ATTTAGTACC  | TGCAACTACT  | GTTCCC ATAT  | 2220 |
|    | CTAAAGACAT  | AACACGCTTA     | TCTTTTAATG    | TCTCTGGTAC  | CTCAT TATTC | ACTAtGGctt   | 2280 |
| 10 | GCGCTAAAACC | TTCAGCAATA     | GCAGTTTTAC    | CAACACCTGG  | CTCTCCAATA  | AGCACAGGAT   | 2340 |
|    | TGTTTTTCGT  | ACGTCTACTT     | AATACTTCAA    | TTACACGTGT  | AATTTCTTTA  | TCACGTCCTA   | 2400 |
|    | TAACAGGATC  | TAATGTACCG     | TCTTTGGCAA    | TGACT GTTAA | GTCACGAGCT  | AAACTATCTA   | 2460 |
| 15 | AAGTTGGAGT  | ATTATTTGAC     | TTACTAGCTT    | GTGCATTTTT  | ATTACTCATT  | TCAGGGTTTC   | 2520 |
|    | CTAAAGCTTT  | CACA A CT TG T | GCACGTGCTT    | TAGTAATATT  | TAAATCTAGA  | TTTGCAAAAA   | 2580 |
| 20 | CTCTTGCTGC  | AACACCTTCA     | TTTT CAC G AA | TCAAGCCTAA  | TAAAATATGT  | TCCGTTCCAA   | 2640 |
|    | CAAAATTGTG  | ATGTAATTTT     | CTAGCTTCAT    | CCATCGATAA  | TTCAATGACT  | TTTT TAGCTC  | 2700 |
|    | TAGGTGTATA  | ATGCAATGTA     | CCAACATGAT    | CTTGACCATG  | TCCGATT AAT | TTTT CA ACTT | 2760 |
| 25 | CTTCAATTAC  | TTTATCTTCA     | GTGATATTAA    | AACTTTCTAA  | TACTTTTGCA  | GCAAT TCCTT  | 2820 |
|    | CAGGTCTTTT  | CATTAACCCC     | AATAATAGGT    | GTTCTGTTCC  | TATATTTGAA  | TGATTT AAAAC | 2880 |
|    | GAATTGCTTC  | TTCTTGGGCA     | TGTGCTAATA    | cGCGCTGTGC  | ACGCTCAGTT  | AATCTACCAA   | 2940 |
| 30 | ATAACATAAA  | TAATGACCTC     | CTACTTTATA    | TGTTCTCTTA  | GTATATCTGC  | TCGTTTTTCT   | 3000 |
|    | TTTACAGATT  | TGTCATCTTC     | TTCATCTAAT    | AAAAATGGTG  | ACTGTATAGC  | TACCATCAAT   | 3060 |
| 35 | TCATTAAATT  | TAAAGTTTTG     | TAATTCAATG    | TAATTTAAAT  | CTATACCAAG  | TTTAACTcGC   | 3120 |
|    | TTAATCTATA  | AGAAGCCTCT     | TCCATAGTTA    | TCATTCTACA  | GTTTTGTAA   | ATACCTAGCG   | 3180 |
|    | AGCGAAAAAC  | ACGGTCTTGT     | GTTTCTAATT    | GATTATAAGT  | GTCTAACFTT  | TGTCGTATTT   | 3240 |
| 40 | GTTTTTCTTC  | ATGAATGATT     | TGATTAACAA    | CTTCTGT TAA | TGTTTCTATG  | ATTTCTAACT   | 3300 |
|    | CAGATTTACC  | AAGTGTAAGT     | TGGTTGGATA    | CTTGATAAGT  | ATGTCCATAA  | ACTTGCGAAC   | 3360 |
|    | CTTCACCGTA  | AATACCTCTG     | ATTGTATATC    | CAAAACGATT  | AATGGTTTGA  | GCAATCCGTG   | 3420 |
| 45 | TCATTCTTTT  | CATAATAGAT     | AGACCTGGCA    | AATGTAGCAT  | CACGCTTGCT  | CTCAT ACC AG | 3480 |
|    | TACCTATATT  | GGTAGGACAT     | GTAGTTAAAT    | AACCAAGTTG  | TT CATCATAA | CTTATATCAA   | 3540 |
|    | GGCTTCGATC  | TAATTCATCA     | TCAATTGATG    | AAGCTTGATT  | ATATAAAGCC  | TGTAATGT CG  | 3600 |
| 50 | TGTCAGTTCC  | CATAGCTTGA     | ATACGAATAT    | GGTCCTCTTC  | ATTTATCATG  | ACACTTAAAG   | 3660 |
|    |             |                |               |             |             |              | 3720 |

CAAAGTTTGG CAAGGCATCT TGTACCTCAT TTATAACTCT AAATCCcATC ATTTTCAGTA 3840  
 GCATACATTA GTGGATGCAC ATGATTTTCT AAAcTACGCG CTAACCGAAT TCTAGAAGAC 3900  
 5 ATAACAATTG GTGTTTCTTC ATTACTTTTC ATCCATTGGC TGATATTATC ATGAATATTA 3960  
 TCGGTCATCA TGTTCACCT CACTCTCAGC TTTTAGTGCT TTAATTTTCAT CTCTAACAAAT 4020  
 GGCTGCTTCC TCAAAATCTT GGATTTCaAT AAGTTTTTTC AAATATTTCAT TCTTTTCTTC 4080  
 10 GATTTTTTCGC TTAAAGCTA TCTTTTTATG TGAAGAATGT GGTGTCTTTC CAACGTGCTC 4140  
 AAATTGTCCA CCTTGAaCTC TCGGACGAT ATCAATGATG TCATCTTTAA ATGTTGcATA 4200  
 15 ACAATTAGCA CACCCAAATT TACCAACATG TGCAATATC 4239

(2) INFORMATION FOR SEQ ID NO: 334:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1245 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 334:

CAAAACTTTG ATTATGTCGT GTCAGTTATT AATGCATACA GTAATGCATC GTTGTTATTT 60  
 TTTATTTATT TACTATTTAT TATGTACCAA ATCAGCCTTt CAGTAAAATA GGTCAAATTA 120  
 30 CTGATTTTCT AAATATAAAA TGCCTCCTAA TAACATACTA TTAGTACATC ATTAAGAGGC 180  
 TCTTGtGTTA TTTGCATACT AAGCGCTCAA ATTTAAATTT AAGATGAAGA TTCTTGCAAT 240  
 AATATTTCTA TATTTGTCGA TATATCCAAT GGATCTTCCA TTGGCAAGAA TCGATTTACA 300  
 ACATTTCTTT GTCGATCGAT TATAAATTTT GTGAAATTCC ATTTTATTGG GgACCCAAAG 360  
 ATTCCTGGTT GTTCaTTCTT TAAATGCGtA AATAACGGAT GTTCATCGTT CCCGTTcACA 420  
 40 GATATTTTAG CTAACACTGG AAATGTTACA CCAATTTCT CACGACTAAT TTTCAAGATT 480  
 TCTTCATTAG AACCTGGTTG TCGATTGTCA AAATTATTAT TCGAAAaCT CAACACTACA 540  
 AACCCACGAT CCTTATATTT TTGAAATAAA GTCTCTAGTT TTTCAATTG TTCGCTATAT 600  
 45 ATACATTCTG TTGCAGTATT AACAACTAAA ATCACTTTAC CTCTAAATGC TTCTAATTTA 660  
 TAAGTTAAGC CTTTATAATC ACTTACTTCG ATATCATACA CATTCTATT ATTCATAAGA 720  
 CACCCCTACA CAGCCTTTTT TATATTGAAT ATGTTCTTTT TAGAATGTTT TGATAAAATA 780  
 50 AGTGCGCGTT TACACCGTGA ACACACATTA TATAGCGTGA TACATTTTTC GAGCACACGA 840  
 TAAATAATGT TCGAGTTTAT GTTGTTGCTC AACCTATCCG ATTTACCGTC TTTTTTCACC 900

CCGTTATAAC CCCTCATTAT AATCATCCTT ATTTTCTATT TTTAAAAAGA CAATTAGACC 1020  
 GCTCTTTAAA CTATAGaTTA ATACTTAAgk TAAACTCATA CATACTGATA CCATACGTTA 1080  
 5 GATCTAACAA TTTAAAATTC GTTATAACTA TGGATTAAAG AGCTGCCCAA CTCATATAAT 1140  
 CCTTAAAAAC TTCACATGTG ATTGTkTATT AAGCCCTCCT TTATChTATT AAATATCCTT 1200  
 ATAACCCTTT TAAAATTAAA CTGACACACT CATACTTGT TACAC 1245

10 (2) INFORMATION FOR SEQ ID NO: 335:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1399 base pairs  
 (B) TYPE: nucleic acid  
 15 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 335:

CTTGTAAGG TAGTTGTTCA TTTAAATTAA AACAGTATGC TAAGTTnGTG CTTATATTTT 60  
 GCAACTTCAA TTCGACAGGC TCATCTTGAT ACATGAATGC CTCAATTTCa TCATGTGATA 120  
 25 ACTTTTTTCAA AATATCAATT AAATGrATAC TAAAAACGAT AAATAACATA TCCCAATTTG 180  
 AATTCAGCCC TAGCGATTTT AATTTGTTTA AAATCTTATC TTTTtGAAAA ATTcGATTCC 240  
 TAATGTCTTG TATATCGTTA TCAGTCAAAG TTTCCCAATC TATATGTGAA TGAAGACCTA 300  
 30 AATAACACTT ATCCATTAAT AATTCATATA CCGTTAATGC AGAGACATCG AAACAACGTT 360  
 CTTCACTTAa AAAAACGCCA TCAACATCAA ATAAAATTTT CTTCACAATC CCCACTCCAT 420  
 TTCTGaAAAT TCAGaTATAA ATCATTCTAC TATTTGACTA AAAAAAGCGC AAACCCTATT 480  
 35 GAAGTaGATT TGCGCTTTAG CTGTtnAAAT TTTATAATG TnTTTCAATT TCATCAGCAA 540  
 CCTGCTGTAC GTGTGTACCG ACAATAACTT GAGTTGAATG TTTGCCATTA ACAGTAACAC 600  
 40 CAACTGCACC GCGGTTTTTA ATCTTCTGTT TATCAATAAT AGATGTGTCT TTTAACTCTA 660  
 GACGCAACCT TGTTGCACAA TTGGTTAAAT TAACAATATT CTCTTGACCG CCTAAACCTT 720  
 CTAATATTTG TATAGCATGT TGATGATATT TACTTTGTTT AATATCATTT TCACCAGGAG 780  
 45 CAATATTATC TTTTACAACt GTTGGGTCAA CTAATTCATT TTCACCTCTA CCAATCGTAT 840  
 TCAAGTTAAA TACTTGGAAT ACTACACGGA AAATCACATA GTATAAGATG AAAAATACAA 900  
 CACCTTGAAC AAGCAACATC AATGGATGAT TTGATACTGG ATTAATTAGT GATAACACAT 960  
 50 AATCTATCAA ACCTGCACTA AATGAAAATC CAGCTGTCCA ATGGAATGTA GCTGCGATAA 1020  
 TTTTAACTCTA 1080

|   |   |      |
|---|---|------|
|   | ACCAACCGTA AACTTGTTTT TTCTGAGTAG TTTTAGCTGT ATGATACATT GcTAACGCAG | 1200 |
|   | CCGCTGGAAT ACCGAACATC ATGATTGGGA AGAATCCCGC TTGATAGCGT CCTGTAATAC | 1260 |
| 5 | CTTTTATAGC ATCTTTGCCA CTTTGGAATT TACCAATATC ATTAATACCA ATCGTATCAA | 1320 |
|   | ACCAGAACAC ACTATTCACT GCATGATGTA ATCCTGTAGG AATTAATAAT CTATTGGCAA | 1380 |
|   | CACCATATAT GAAAGCTCC  | 1399 |

## (2) INFORMATION FOR SEQ ID NO: 336:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1329 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 336:

|    |  |      |
|----|--|------|
|    | TATAGTTnTA TTATTTAGCG AAGCATTAACT ACTACCACCG GTTATAACAA ATGTATTTTG | 60   |
|    | CGTATTAAAT TGAATGGTAG GACCAATCAA AGTATATTCA ATCGCTGGAC CATCATTTGT  | 120  |
| 25 | AATTAATGAC TGC GCAACCT TAAAACTAAA TTGATCCATG GCACCTGCGC CTGAAAATCC | 180  |
|    | AATATGTTCA TAACCTATTC TTCCTAGATC TTGTACCGTT GAAAAGAGAC CTGGTTGTAA  | 240  |
|    | AATCTTAATT GACATTTTCA ATCACCACCC AGTCATCAAC ATTAAAGTTG CCATCTGATA  | 300  |
| 30 | TATCTCTTTC GATTTGTATA AATTTCTGTT CATCTATTGC ATAAAATTGT ATCCATTCTC  | 360  |
|    | CTGCTTCGTA CATTGACATT GGTTCACGCT CGCTGCTAAA TACTTTTAAc GGTGTGCGTC  | 420  |
| 35 | CAATAATTTG CCATCCGCCA GGAGAATCTG ATGGATATAG TCCTGTTTGA TTATTCGCAA  | 480  |
|    | TACCTACAGA ACCTGCATGA ATTTTAAACC TTGGCTGATT ACGTCTAGGT GTATGTAGTT  | 540  |
|    | GTTCAATCAAG TcCGCCTAAG TATGGAAATC CTGGCATAAA TCCTAGCATA TATATTAAAT | 600  |
| 40 | AAGGTTTACT TGTATGTTTT TCAATAACTT GCTCAACAGT TATTCGATTA TGCTTTGCTA  | 660  |
|    | CTTCTTCAAT ATCTGGTCCA TATGTACCAC CATATTGAAC AGGTATTTTA ATAATACGAT  | 720  |
|    | TGGTTTGATT CACAGCATGA ACATTTTTTT CATTAAATTT GTTAAGTTCT AAATTTTCAA  | 780  |
| 45 | TTAATTTAGA AGATGTTATA GCTTGTTTCA CAAAATATAT TAGAACTGCT CGATACGAAG  | 840  |
|    | GGACAATATC TTGAATTTCT AATATTTCTT TTTCTCGTAT CCACCGTACC ATTGCTGTGA  | 900  |
|    | CATTACGATA TGTCTCTTCG GATATTTTAT TTTCAAATA AATCATAATT GTCTGCTCGT   | 960  |
| 50 | TAATAAATCT TACATCCACT TTAAATCCCC CTTTGTATTG CAATAAACCA GTATTGAATA  | 1020 |
|    | CCTTTTCATT GTATCATTGA GAAGCACAAG TTGTTTAATA AGTAATTCAA ATCGCATATA  | 1080 |

TTAATATTGT AACTCTTACA CTAATTTAGG TTCTGCTATC ATTCGGTCTG ATGGAAAATT 1200  
 TTACTTTTC ATCTGTCCGA TTTTGTGATT TTGAATATAA AAAAGCACGA CCGAAGTATC 1260  
 5 ATTAACACAC TTCAATCGCG CAATTAAATA ATCTATTGA TCATTTATTG GATATTAACA 1320  
 ATTTTACG 1329

(2) INFORMATION FOR SEQ ID NO: 337:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 3421 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 337:

GAATAGTGCC ATTTGGAAAG ACATAAAGAA TCCAGAAGCA CCTTTAGCGA ATATGCCGTG 60  
 20 TTCATATAGA TTTGTGAAAC TGGCATGCCC GAATTGAGTT TTAAATGCAA ATAGAATCAT 120  
 GACGAAACCA ACTACTATTA AACCAATAAT TGTCGCTATT TTAATGATAG AGAACCAAAA 180  
 25 TTCTAATTCT CCGAAAAGTC TTGCGCTAAG TAGGTTGAAT GACATTAATA ACAGTACACA 240  
 AAATAGTGCA CTTATCCAGT TTGGAATTTT TGGGAACCAA AAGCTAACAT ATTTTGCCAC 300  
 AGCCGTTACT TCAGCCATAC CTGTAATAAT CCAACAGAAC CAGTATGTCC ATCCGGTAAC 360  
 30 AAATCCTGCA AAAGGCCCAA TATATGTATT GGTTACATCT GCGAAAGATT TAAATTCAGT 420  
 ATTCTGTATA ATGATTTCTC CTAAACCTCG CATAAACATA AATAACATAA ATCCTATAAT 480  
 GATGTATGTT AATAGAATTG AAGGGCCGGT TAATGCAATC GTTTGACCAG CACCTAAGAA 540  
 35 TAAGCCTGTA CCAATTGCAC CGCCAATTGC AATTAATTGT ATGTGGCGAT TGCTCAGTTC 600  
 CCTTTGTAAT TTTTCAGCCA TAATACATCT CCCTTAAATA TAGATATGTT TATTATGCAC 660  
 TTATATTGAG ATATATACAA TTATTTTCGG TAAAAATGTG TAAAATTCCA TGTTAATATA 720  
 40 CTTTGGTTTT TATAATCATA TATAATAACC AATTGAAAAT TTAATTCTAT TGTAATAATC 780  
 ATGGATTATT CACATCTTGA AAAAGCTTTA ATGGTGCTAT TTGTGGCTAT TCTGTGACAT 840  
 45 TTACATAGAT TTACAAAAAA ATTGTTGCAC ATATAATGCC AGTCTTTATA TTTCACAAAC 900  
 GAAATGCGTT TACTATAATA TTAGTTGAAA GCCATTTTCAT AAAGAAACAG TAAAGGGGAA 960  
 ATTTATCaTA GCMGaATTAC AAAGAGGTTT AGAAGGGGTT ATCGCMGCGG AGACTAAAAT 1020  
 50 AAGTTCAATT ATTGAAAGTC AATTGACTTA TGCCGGCTAT GATATTGATG ATCTAGCTGA 1080  
 TATAGATTGC CAAACGAAGA 1140

|    |            |            |            |            |            |             |      |
|----|------------|------------|------------|------------|------------|-------------|------|
|    | TACACATTTT | GAGGAGTATG | TTACAGATCA | CGTGCATCCA | ATGACAGCAT | TACGTACGTC  | 1260 |
|    | ATTATCATAT | ATTGCACATT | TCGATCCTGA | TGCTGAAAAT | GAATCAGATG | AAAATCGTTA  | 1320 |
| 5  | TGAAAGAGCA | ATGCGTATAC | AGGCTAAAGT | AGCATCATTA | GTTACAGCGT | TTGCTCGAGT  | 1380 |
|    | AAGACAAGAT | AAAGAACCAC | TTAAGCCTAA | TCCTGACTTA | AGTTATGCGG | CAAAC TTCCT | 1440 |
|    | ATATATGTTA | CGTGGGGAAT | TACCAACAGA | TATAGAAGTA | GAAGCCTTCA | ATAAAGCACT  | 1500 |
| 10 | TATTTTACAC | GCTGATCATG | AGTTGAACGC | ATCTGCATTT | ACGGCACGTT | GTGCGGTATC  | 1560 |
|    | ATCATTGTCA | GATATGTACT | CAGGTATTGT | AGCAGCCGTA | GtTCTCTGAA | AGGGCCATTA  | 1620 |
|    | CATGGTGGTG | CAAACGAACA | AGTTATGACG | ATGTTATCTG | aGATTGGGTC | AaTTGAAAAT  | 1680 |
| 15 | GTTGATGCTT | ACTTAGATGA | AAAATTTGCT | AATAAAGrTA | AAGTAATGGG | cTTCGGTCAT  | 1740 |
|    | CGTGTATATA | AAGATGGTGm | tCCTAGaGCG | AAaTATTTaA | GaGAAaTGAG | CCGTCAAaTT  | 1800 |
| 20 | mCGAAAGACG | CTGGTCGTGA | AGAATTATTT | GAAaTGTCAG | TGAAAaTGGA | AAAmCGTATG  | 1860 |
|    | GCAGAAGAAA | AAGGATTAAT | TCCTAATGTT | GATTTTTATA | GTGCGAGTGT | TTATCACTGT  | 1920 |
|    | ATGGAAATAC | CTCATGACTT | ATTCACGCCA | ATCTTTGCTG | TAAGTCGTC  | TGCAGGATGG  | 1980 |
| 25 | ATTGCTCATA | TTTTAGAACA | ATATAAAGAT | AATAGAATTA | TGCGTCCTAG | AGCGAAATAT  | 2040 |
|    | ATTGGCGAAA | CGAATCGTAA | GTATATCCCG | CTTGrAgAAA | GAAAmTAATC | AATACAAATT  | 2100 |
|    | AAAAATGAAG | ATGTAAAATT | TGGAGGTAAA | ATAACTATGA | CTGCAGAAAA | AATTACTCAA  | 2160 |
| 30 | GGAActGAAG | GATTAACGT  | ACCTAATGAA | CCAATTATCC | CATTTATTAT | CGGTGATGGA  | 2220 |
|    | ATTGGACCGG | ATATTTGGAA | GGCAGCAAGC | CGAGTTATAG | ATGCTGCTGT | TGAGAAA sCC | 2280 |
| 35 | TATAATGGCG | AAAAACGCaT | TGAATGGAAA | GAAGTGCTAG | CTGGCCAAAA | AGCATTTGAT  | 2340 |
|    | ACAActGGTG | AATGGTTACC | TCAAGAAACA | CTTGATACAA | TTAAAGAATA | TTTAATTGCT  | 2400 |
|    | GTAAAGGAC  | CTTTAACAAC | ACCAATTGGT | GGTGGTATTA | GATCATTAAA | TGTGGCTTTA  | 2460 |
| 40 | CGCCAAGAAT | TAGATTTATT | TACTTGCTTA | AGACCGGTAC | GTTGGTTTAA | AGGAGTACCA  | 2520 |
|    | TCACCTGTTA | AACGTCCACA | AGATGTTGAT | ATGGTTATTT | TCCGTGAAAA | TACTGAAGAC  | 2580 |
|    | ATTTATGCTG | GTATTGAATT | TAAAGAAGGT | ACAACAGAAG | TTAAAAAGGT | AATTGACTTC  | 2640 |
| 45 | TTACAAAACG | AAATGGGTGC | GACAAACATT | CGATTCCCAG | AAACTTCAGG | TATTGGTATT  | 2700 |
|    | AAACCAGTTT | CTAAAGAAGG | AACTGAGCGA | TTAGTTAGAG | CAGCTATACA | ATATGCTATC  | 2760 |
|    | GATAATAACC | GTAAATCAGT | TACTTTAGTT | CATAAAGGTA | ATATTATGAA | ATTTACAGAA  | 2820 |
| 50 | GGCTCATTTA | AGCAGTGGGG | TTACGATTTA | GCATTATCTG | AATTTGGTGA | TCAAGTATTC  | 2880 |
|    | ACTTGGCAAC | AATATGACGA | AATTGTTGAA | AATGAAGGCA | GAGATGCTGC | TAATGCTGCT  | 2940 |

|            |            |            |             |            |             |      |
|------------|------------|------------|-------------|------------|-------------|------|
| TTACAACAAA | TTTTAACTCG | TCCAGCTGAG | CATGATGTTG  | TAGCAACTAT | GAAC TTGAAT | 3060 |
| GGTGACTATA | TTTCAGATGC | TTTAGCTGCA | CAAGTTGGTG  | GTATTGGTAT | TGCGCCAGGT  | 3120 |
| GCAAACATTA | ATTATGAAAC | AGGTCATGCT | ATTTTTGAAG  | CAACACATGG | TACAGCTCCA  | 3180 |
| AAATATGCAG | GTTTAAATAA | AGTGAATCCA | TCTTCAGTAA  | TTTTAAGTTC | TGTATTAATG  | 3240 |
| TTAGAACATT | TAGGATGGCA | AGAAGCGGCA | GATAAGATT A | CAGATTCAAT | TGAAGATACA  | 3300 |
| ATTGCTTCAA | AAGTTGTTAC | TTATGACTTT | GCCCCGTTTAA | TGGaTGGtGC | TGAAGAAGTT  | 3360 |
| TCTACATCAG | CATTTGCAGA | TGAATTGATT | GnAAATTTAA  | AATAAGCAGA | ATAGAATTAG  | 3420 |
|            |            |            |             |            |             | 3421 |

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(2) INFORMATION FOR SEQ ID NO: 338:

(i) SEQUENCE CHARACTERISTICS:

- SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 3173 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 338:

|  |     |
|--|-----|
| CCCTnGATAC CCAAAC TGCC CTAATACCAC TGGCTAAACC TAATGGATAG TACCATTAT  | 60  |
| TTTCCAATAA ATAA nCCAAC TGCAATnGCT ATaACTCTAA ATATAATAGA GATAATCmCA | 120 |
| TTAATTGGAT TAAtACGCCA AATACTAGTA ATAATAGGCT AGATAATAAT CCACCTAAAA  | 180 |
| AGTACTTTTT AATTCCAAAG AAAGCTAATA TCAATAATGC TGCCGGTGCA GATAATTGAA  | 240 |
| AATCTAATCC TGGTATAATG GACGGTATTT TCAAACTGC CAAAATGGTT AAAATCGCAG   | 300 |
| CAATGACACT AATTTGAGTA ATATCTTTTG ATGTCATACT AAAACCCCTA TACCGTTTCA  | 360 |
| TAAACAACCT GCTTCGGTGT GCTTTCTAAA AATGATATGT AATGATTTAA ATCAATACAA  | 420 |
| TCGTCCACAA ATATTATTCT GCCTCCATAT CTCGTATTAA CTGGTTTAAT ATCAAATAAT  | 480 |
| CGATGGTAAC CAATTTTAGC AGCGGCAAAA TAACCTGTCTG TATACGTTAA GTCATCGGAC | 540 |
| ACGCAAAGTT CTCCTTTGAC ATACGGATGC GCATTGATAC AACTAGCAAT TGCTAAGGCA  | 600 |
| TCAGTCACTC TTTCATTAAG ATCACCTTTA TTATTTATAT CTTCAAACGA AAAATGTGTT  | 660 |
| GCCCTAATCC CCCTTTGTCC AAATGAATCT AAACGTTTAC CAGATATAGC AGATAGAATA  | 720 |
| ATAGCTCCTG TATAAACCGT TTCATTTTTA ATATATGTCA TCCCTTGATT TAGCGCTTGT  | 780 |
| TCAGTGACAC CACATTCTTG TGTTAAATGT TGGAGATTG CTTTATCATC CTCAAATAATT  | 840 |

|    |             |            |            |            |            |            |      |
|----|-------------|------------|------------|------------|------------|------------|------|
|    | ATTTTGTCAA  | ACTCACAAAT | CGTTTCAGCA | CCACTAATAT | GAACATCTTG | ATTGCTAGAA | 1020 |
|    | CGCATTTTTA  | TACTATACAT | GACGATCACC | TcAATCTTCT | TGaTGCAAAA | TTTCAAACAA | 1080 |
| 5  | CCTATCTATA  | TCTTGTTTCA | TATGAAAATA | CGACAATGAT | ATTCTTAACA | TTGGCTTAGT | 1140 |
|    | CACAGTtGGA  | TACCTTAAAT | AACTTGTAAG | CACATGATGC | TTTAATAATG | TTTGATGAAT | 1200 |
|    | GTTCTCAGCC  | GCTTCTATGT | CATCAAACCT | AATAAACTTA | ATCGGCGAGT | TTGaACTATT | 1260 |
| 10 | ATAATKaACA  | TTGAGTGCTT | TTAACTTTTG | GTTAAAATAT | TTACTCAAAC | TATTTAATTT | 1320 |
|    | AGTGCGTCTA  | TCATCAGCAT | TTATTAACCT | TTCAATGTTT | CTTTTATAA  | AATACAAATT | 1380 |
|    | ATAAAATTGGC | AAACTACTTG | AGTAGATGAG | TGGTCTACCG | TGATTAATTA | aCATATCctT | 1440 |
| 15 | CaCATCaTTT  | GaACTKaAAA | TcACACCCCC | GTATGCACCA | CATGCTTTAG | ATAAACTAGA | 1500 |
|    | AGTGAGTATA  | TCTACACCTT | GATAATTCGA | GTAAtTCTCT | ATtCCAAAAC | TATGTGAAAC | 1560 |
| 20 | ATCGAGTATC  | AGTGTTGCGT | TAnATTTATG | CTTTAATGAG | ACTAATTGAC | CAATATCCAC | 1620 |
|    | AACGTCGCCA  | TTCGTTGAAA | ATACACTATC | AGATATGATT | ATTTTGGTA  | TATTTTGATT | 1680 |
|    | AGGGTATTTT  | TCTAACCTTT | TTTCTAAATC | AGCAATATCT | AAATGCTTAT | ATATCACTTT | 1740 |
| 25 | TTCTAAACCA  | CTTAACCTTA | TACCGTCAAT | AATACTCGCA | TGATTTTCTT | GATCTGAAAA | 1800 |
|    | CACGACACAA  | TTTGTATTTT | TGAAAATATT | AAATAACGCC | AAATTAGCAT | CATAACCACT | 1860 |
|    | ATTTAAGATA  | GTACATGcAC | TATATCCGAG | CCAACCTGCT | AACATTGTTT | CAATTTCTTC | 1920 |
| 30 | ATAAGCTGTC  | GAACCTCCAC | TAATTAATCT | TGAACCTGAT | AAGTGATAAC | TATACTTCCG | 1980 |
|    | CATAAATCTT  | TCGAAATCAT | CCTTATCAAA | CGCTATTTGA | CCTAATCCTA | AATAATCATT | 2040 |
|    | AGATGTATAG  | TTCGTACATC | TCTTATTTTC | TACTTCAATA | TACTGTCTAT | CTATATACCC | 2100 |
| 35 | TACCGATTTA  | AGCGACCGAT | ATAACCCCTT | CTGTTGTAAT | AAATCAATTT | GCTCTTGAAA | 2160 |
|    | CTTCATTCTT  | GTTTTCTTAA | TTTTCACAA  | TGTCATAATC | AATTTCAAAG | CCTAAATCAT | 2220 |
| 40 | TAATCATATC  | GTAGTCTAAT | TGGTTCGGTT | GCCCACCAGT | AATTAGATAA | TnCACCGACA | 2280 |
|    | AATATTGAAT  | TCGCCGCTTT | TAATGCTAAT | GGCTGTAACG | AACGTAAGTT | GACCTCTCTT | 2340 |
|    | CCTCCAGCAA  | TACGAATTTT | TTTCGTAGGA | TTGATTAATC | GGAATAATGC | TACGATTCTT | 2400 |
| 45 | AAACATTTCA  | TTGGTGTTAA | ATCATCCATG | CTTCCAAACT | TTGTGCCTTT | GATTGGATGC | 2460 |
|    | AAAAAATTAA  | TCGGAATACT | GTCGGCATCC | ATTTCTTTTA | AAGCAAATGC | CATATCAACA | 2520 |
|    | ATATCTTGAT  | TAGATTCTCC | CATACCACAA | ATCAGCCAG  | AACATGGTGA | TATATTATTC | 2580 |
| 50 | GCTTTTATTA  | GTTCTATCGT | ATCTGTTCTA | TCTTTATAAC | TATGCGTTGT | CACGACGTTA | 2640 |
|    | TCATGGTAAT  | TTTCACTTGT | ATTAATATTG | TGGTTATATC | TGTCTACACC | AGCTGACTTA | 2700 |

|    |   |      |
|----|---|------|
|    | TGTTGAGATT TAATCGTTCT TACAGTATTA CTAATATGAT CAACTTCTTT ATCGCTCGGT | 2820 |
|    | CCTCTACCAC TCATAACAAT ACAATATGTT CCAATATGAT TATCATGTGC CACCTTTGCT | 2880 |
| 5  | CCATCGATAA TTTGTTCTCT TGAATTAAA GCATATCGCT GTTTTGTGTT AATATCTCGT  | 2940 |
|    | GATTGTCCAC AGTACCCACA ATTTTCAGGA CATATACCAC TTTTAGCATT TAAAATCATG | 3000 |
|    | TTTAATTTTA CTMTTTTACC AAAATAATGT TTTCTTAAAA TGTACGCCTC ATTAAATAAA | 3060 |
| 10 | TCTAAGGTAT CAATATTAGT ATCCTCATAA ATtTTCAATA CAGTCTCTTT TGTtAATTGT | 3120 |
|    | tCCCCCTTGTA ATATGCGTTT AGCCAAATTC ATATTAAACAC TTCCTATCTA AAA      | 3173 |

## (2) INFORMATION FOR SEQ ID NO: 339:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1694 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 339:

|    |  |     |
|----|--|-----|
| 25 | CGATTATCCA TTAATACAAC CCTAAGTAAA TGTATAAAAA TTATCTTCCA CAAACTTCAA  | 60  |
|    | CAAAAGCCTA AATAAATTAC AGCAATTTAT CAAATATTGC TTACTTTGAT TTTATGAAAT  | 120 |
|    | nACTTAATTC TAACACATAC TAAATCATCA TATACTAATT CGAAATCAAA TGCATTTAGA  | 180 |
| 30 | GATAATCaAA ATGCGGAAAC ATCTCCaATA ATCAATAATC TATTCCCAAT AAATATGAAT  | 240 |
|    | GTTCTCAACA ATACATTATT TATATCTCTT TACACTGTCA TCGACAAAAA CTAAATCTTT  | 300 |
| 35 | CACTTTCAAT TTCGAACGTG GTTCTACGAC ATTTGCTGCT ATATCATTTA ATGGGATTAA  | 360 |
|    | AACAAATGCA CGTTCATTCA TTCTCGGATG TGGCACCGAC AGTTTTGGTA AATCTATCAT  | 420 |
|    | TTCTTCTCCA TACAACAAA TATCCACATC TAAAGTTCTA GGACCCCATC GTTCCTTTCT   | 480 |
| 40 | AATACGGTGT AAACATTCTT CTGTCKTCAA ACAACATTCC AACAGTTGTA ATACTGTGAG  | 540 |
|    | TGTTGTTTTsa ATTTCAACAC ACAAAATTAA AAAGTTAGGT TGCTCAGTAT ACCCAACTGG | 600 |
|    | TGCTGTTTCA TAAATCGGAG AAATAtTAGA TACGTTAATA CCATCATATT CATTCaAAAT  | 660 |
| 45 | CTTyATAGCA TCGTTTAAct GGCTTTCTCT ATCACCAaTa TTACTACCTA AycCTAAGTA  | 720 |
|    | TGCTTGAATC ATyTATTCTC CCTCACTATT TCGATACCTA CTCCATCATA ATGACCCGGA  | 780 |
|    | ATCGGTGGGT TTTCTTTAGT GATTCTCACT TTCGTTTCCA TTACACGATT ATATTGTGAA  | 840 |
| 50 | TTTATACGAT TTGCAATACG TTCAGCTAGA TGCTCAAGTA AATTAACGGC CTTACCTTCC  | 900 |
|    | ATANTGAA CTCTATCAAT AACATTATCA                                     | 960 |

|    |   |      |
|----|---|------|
|    | ATTTTCATTTT CAGCTGATAA AGCACCATGA TATCCATAAA AGCGCATACC TTTAAGAAAAG                         | 1080 |
|    | ATTGTGTCTT GCATTTTCAT TCTCCTTTAA AAAATCTATA CCTTTAGCTA ATTTAGCATT                           | 1140 |
| 5  | CAACTCGACA TTATGAACGC GTACTGCTCT AACGCCTTTC ATAATACCAT ATGCAGTCGT                           | 1200 |
|    | AGCTGCAGTT ACTTCATCTC TTTCAACCGG TGTGTATCA TAACCCATCA TCTCTTTAGT                            | 1260 |
|    | GAAACGTTTC CGGCTTGTCG CTAATAAAAC TGGATATTCT GTTGCAACAA GTTCATCCAG                           | 1320 |
| 10 | TCTTGCCATA ACTTCGGCTT CTTCAATTTCT AGTTTTAGCG AAACCTATAC CTGGATCTAG                          | 1380 |
|    | CCAAATTTTA TTTGAAGGTA TACCAGCTAT TTTAGCTTGA TGTGCTTGTG CTAACAAAGA                           | 1440 |
|    | TGTTAACATT TCTTCGACAA CCGGTTTCATC ACGATTACCA TTTCCATTAT GCATTAAAAAT                         | 1500 |
| 15 | AATTTCCGCG TCATATTTAG CTACAATTTG GAACATACGA TGATCATACA GACCGCCcAT                           | 1560 |
|    | tGATCATTAA TCATATCAAC GGCTAATTTT AAACATGCTT CAGCAACCTC ACTTCGAAAT                           | 1620 |
| 20 | GTATCGACTG AAATTTTTTA CATCA <sub>n</sub> AACC GACAATAGCT TCA <sub>n</sub> CAACAG TAATACTCTG | 1680 |
|    | TTCCATCTCT TCTG   | 1694 |

## (2) INFORMATION FOR SEQ ID NO: 340:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1358 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 340:

|    |   |     |
|----|---|-----|
| 35 | AGCATTTCTT TTCTATAAAC ATTTAATTGA ACATTATTAA GTACACTATT ACTATAGTCA | 60  |
|    | CTATATTGAA CaCATACCTC ATTTAATTCT AATAGCGGTT CAGATTTGTA CTTATTATCA | 120 |
|    | TTATTTGCAG ATGTTTCATC TATCCATTTT TTCACCTTAA ATTTAACATG TTCATCATA  | 180 |
| 40 | CAAACGTCAC GTAAATTCGC TAAGTTATCA ATGGATTGCA CATCTACTTC TGCATATTTA | 240 |
|    | AGCGCTGTAC AGTATAATGG TTCACGTATG CCTGCTTCTT TAAGCTTAGA TGATTTTAGC | 300 |
|    | AAATCACTAG GCGTTGTATT AGCGATGATT TTTCCATCTT TAAAAAGAAG AACTCTATCA | 360 |
| 45 | AACGTATCAT CTAATGATTC TTCTAATCGA TGTTGACAA TAATCATCGT TGACTTTGTT  | 420 |
|    | TCTTCATGAA TATTGTTTAA CAATCTCAGC GTTTCATGTC CTGTGCGAGG ATCTAAATTG | 480 |
|    | GCCAGTGGCT CATCCAATAT TAAAATAGGC GTACGATGGA TTAATATACC ACCTAATGAA | 540 |
| 50 | ACGCGTTGTT TTTGACCTCC AGATAAATCT TGCGGTCGGT GATTTAAATG TTCTATCATG | 600 |
|    | CCAACTTTTT CAGCCCAATA ACTTACATTT TTCTTCATAT CATCTTGTTT AACACAATTA | 660 |

TCTTGTA AAA CTGTACCAAC AACATTAGAT CTATCATGTA AACAACTAAC GGTTCATCT 780  
 TGATTATTTA TATATAGTTC CCCAGTTATG TTACCTTTAG TTTTAAATGG AATTAATCCG 840  
 5 TTTATGCAAT TTGCAAAAAGT CGATTTACCA CTACCCGAAG CACCAACTAC TAATACTTTT 900  
 TCTCCTGGAT AAATATCAAC ATTTATATTC TGTAATGTAG GTGTGCTTG ACTATGATAT 960  
 TGAAAACTAA AGTCTTTGAA CGAGATAATT GGTTCAGTCA TGATATATCA TTACCTTTCT 1020  
 10 ATATTCATTT ACATATCTGA TTCAACAAAA TAACTATTCC TTACGTAAAC TACCTTTTTT 1080  
 AATTTGAGAT GAaGCATATG CTTTAAATAA TATTGTCCCA ATAATGCCAA CTGAAATAAT 1140  
 ATTTAATACT GCAGAGATAA CACCTTGTGT ATAAACCTTG TTAGCTGGTT CGTTATAAAT 1200  
 15 CAAAATATCT AATGTTGGTG CAATAAGTGC CCAGCAAATA ATATTCGCAA TAATTTGACC 1260  
 GATATTAAAA TAAACCATCG ATTCCTAGA AAATCGGCCT GAAGAAAGAT TTAATTTTAG 1320  
 20 TCCAATCCAG CCATATAAAC AGCCTATAAT TCCCGAGC 1358

(2) INFORMATION FOR SEQ ID NO: 341:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 4557 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 341:

TAGAAGAATT GGAGAAAATG CTAATTCAAT TGTCAACATT CCATAGTTAT CATGATTTAG 60  
 AGTTTCTATT TGTGACACGT GAAGATGAAG TTGAAACATT GAAATGGGCA CGTTGGTTGC 120  
 35 CACATATGAC ATTGAGAnGG CAAAACATTA GAGGATTTGT TTACAATCAA CGAACGCGTG 180  
 ACCAAATTTT AACGTCAATT TATAGCATGA TTAAAGAACG TATCCAAGCT GTGctGaACG 240  
 CAGCAGAAGT AATGAGCAAA TTATTTTCAC ACCGCAATTA GTGTTTGTCA TTACAGATAT 300  
 40 GTCATTAATT ATTGATCATG TCATTTTAGA ATATGTAAAC CAAGATTTAT CAGAATATGG 360  
 TATTTCAITTA ATCTTTGTTG AAGATGtGAT TGaAAGTTTG CCAGAGCATG TAGATACCAT 420  
 45 TATTGATATC AAGTCTCGTA CTGAAGGCGA ACTGATTACG AAAGAAAAAG AATTAGTTCA 480  
 ATTGAAATTT ACACCTGAAA ATATTGtTAA CGTCGATAAA GAATATATCG CGCGACGTTT 540  
 GGCGAATTTG ATACACGTCG AACATTTGAA AAATGCAATT CCTGATAGTA TTACATTTTT 600  
 50 AGAGATGTAT AACGTGAAAG AAGTAGATCA GCTTGATGTG GTTAATCGAT GGAGACAAAA 660  
 AATTAATCCG AAGTGTGTAAGA GGTAAAGATG ATATTTTATC 720

|    |            |            |            |            |            |             |      |
|----|------------|------------|------------|------------|------------|-------------|------|
|    | AGGGAAATCT | GAGATTATCC | AATCATACAT | TTTATCTTTA | GCTATTAATT | TTCACCCCTCA | 840  |
|    | TGAAGTTGCA | TTCTATTGA  | TTGACTATAA | AGGTGGGGGT | ATGGCGAACT | TATTTAAAGA  | 900  |
| 5  | TTTAGTCCAT | TTAGTTGGTA | CGATTACAAA | CTTAGATGGC | GATGAAGCGA | TGCGTGCCTT  | 960  |
|    | AACATCAATC | AAAGCCGAAT | TGAGAAAACG | TCAACGTTTA | TTCGGAGAGC | ATGATGTTAA  | 1020 |
|    | CCATATTAAT | CAATACCATA | AGTTATTTAA | AGAAGGTATT | GCGACAGAAC | CAATGCCACA  | 1080 |
| 10 | TTTATTCATT | ATTTCCGATG | AGTTTGCCGA | ATTAAAATCA | GAACAACCTG | ATTTTATGAA  | 1140 |
|    | AGAACTTGTA | TCAACGGCAC | GTATTGGACG | TTCGTTAGGT | ATTCATTTAA | TACTTGCGAC  | 1200 |
|    | ACAAAAACCA | TCGGGTGTTG | TTGaTGACCA | AATTTGGTCT | AACTCTAAAT | TTAAGTTGGC  | 1260 |
| 15 | ATTTAAAGTA | CAAGATAGAC | AAGACAGTAA | TGAAATTTTA | AAAACACCAG | ATGCAGCAGA  | 1320 |
|    | CATTACmTTA | CCaGgTCGTG | CGTATTTACA | AGTTGGTAaT | AATGAmATTT | ATGAATTATt  | 1380 |
| 20 | CCAATCTGCA | TGGAGTGGTG | CAACATATGA | CATCGAAGGC | GATAAATTAG | AAGTTGAAGA  | 1440 |
|    | TAAGACGATT | TACATGATTA | ATGACTATGG | TCAACTTCAA | GCAATCAACA | AAGACTTGAG  | 1500 |
|    | TGGACTTGAA | GATGAAGAAA | CGAAAGAAAA | TCAAAGTGA  | TTAGAAGCGG | TCATAGATCA  | 1560 |
| 25 | TATCGAATCT | ATTACAACAC | GATTAGAAAT | CGAAGAAGTT | AAGCGTCCAT | GGCTACCACC  | 1620 |
|    | ATTGCCAGAA | AATGTATATC | ArGAAGATTT | AGTAGAAACa | GATTTCAGAA | AATTATGGTC  | 1680 |
|    | AGATGATGCA | AAAGAAGTGG | AATTAACATT | AGGACTTAAA | GACGTACCAG | AAGAACAATA  | 1740 |
| 30 | TCAAGGACCG | ATGGTATTGC | AATTGAAAAA | AGCTGGGCAC | ATCGCGTTAA | TCGGAAGTCC  | 1800 |
|    | AGGATATGGT | AGAACAACGT | TCTTACACAA | CATTATTTTC | GATGTTGCAA | GACACCATCG  | 1860 |
|    | TCCTGATCAA | GCACACATGT | ACTTGTTTGA | TTTCGGTACC | AATGGTTTGA | TGCCAGTTAC  | 1920 |
| 35 | AGACATACCA | CATGTCGCTG | ATTACTTTAC | AGTAGATCAA | GAAGACAAGA | TTGCTAAGGC  | 1980 |
|    | GATACGTATA | TTTAATGATG | AAATTGATCG | TCGTAAGAAG | ATTTTAAGTC | AGTATCGTGT  | 2040 |
| 40 | CACTAGTATT | TCTGAATATC | GAAAATTAAC | TGGTGAAACA | ATTCCGCATG | TCTTTATTCT  | 2100 |
|    | TATTGATAAC | TTTGACGCAG | TAAAAGATTC | ACCTTTCCAA | GAAGTTTTTG | AAAATATGAT  | 2160 |
|    | GATTAAAATG | ACGCGTGAAG | GGCTAGCATT | AGACATGCAA | GTAACCTTAA | CTGCTTCAAG  | 2220 |
| 45 | AGCTAACGCT | ATGAAAACAC | CAATGTACAT | TAATATGAAA | ACGCGTATCG | CAATGTTTTT  | 2280 |
|    | ATATGATAAA | TCAGAGGTGT | CGAACGTAGT | AGGACAGCAA | AAATTTGCGG | TTAAAGATGT  | 2340 |
|    | TGTGGGTCGA | GCATTGTTAA | GTAGTGATGA | CAACGTATCA | TTCCATATTG | GCCAACCATT  | 2400 |
| 50 | TAAACATGAT | GAGACCAAAT | CATATAATGA | TCAAATTAAT | GATGAAGTAT | CGGCGATGAC  | 2460 |
|    | AGAATTTTAT | AAAGGTGAAC | ACCAAATGAT | ATtCCTATGA | TGCCAGATGA | AATTAAATAT  | 2520 |

|    |   |      |
|----|---|------|
|    | GGATTAGATT ATGAAGGTGT TACACTACAA AAAATTAAAT TAACTGAACC AGCAATGATT | 2640 |
|    | TCATCAGAAA ATCCGAGAGA AATTGCGCAT ATTGCTGAAA TTATGATGAA AGAAATTGAC | 2700 |
| 5  | ATATTAAATG AAAAATATGC GATTTGTATC GCAGACTCAA GTGGAGAGTT TAAAGCTTAT | 2760 |
|    | AGGCATCAAG TGGCTAACTT TGCCGAAGAA AGAGAAGACA TTAAAGCGAT TCATCAACTA | 2820 |
|    | ATGATTGAAG ACTTAAAGCA AAGAGAAATG GACGGCCCAT TTGAAAAAGA TTCACCTTAT | 2880 |
| 10 | ATTATCAATG ATTTTAAAC ATTTATTGAT TGCACGTATA TTCCGGAAGA TGATGTTAAA  | 2940 |
|    | AAGCTTATTA CAAAAGGACC AGAACTTGGC TTGAACATTT TATTGTCTGG CATTCATAAA | 3000 |
|    | GAATTAATAG ATGCTTATGA TAAACAGATT GATGTTGCAC GTAAATGAT TAACCAATTT  | 3060 |
| 15 | AGTATAGGTA TTCGTATTTT AGACCAACAA TTCTTTAAAT TTAGATTTAT TCAACGAGAA | 3120 |
|    | CCTGTTATTA AAGAAAATGA AGCATATATG GTCGCAAACC AAGCTTATCA AAAGATTAGA | 3180 |
|    | TGGTTTAAAT AGCAATGAAT TAAATAGGAG GGAGGTATGT TATGAATTTT AATGATATTG | 3240 |
| 20 | AAACAATGGT TAAGTCGAAA TTAAAGATA TTA AAAAGCA TGCTGAAGAG ATTGCGCATG | 3300 |
|    | AAATTGAAGT TCGTTCTGGA TATTTAAGAA AAGCTGAACA ATATAAGCGA TTAGAATTTA | 3360 |
|    | ATTTGAGTTT TGCACTAGAT GATATTGAAA GCACAGCAA GGACGTACAA ACTGCAAAAT  | 3420 |
| 25 | CTAGTGCTAA TAAGGACAGT GTAACGTGTA AGGGAAAGGC GCCCAATACG TTATATATTG | 3480 |
|    | AAAAAGAAA TTTGATGAAA CAAAAGCTTG AAATGTTGGG TGAAGATATC GATAAAAATA  | 3540 |
| 30 | AAGAATCCCT CAAAAAGCT AAGGAAATTG CTGGCGAAAA GGCAAGTGAA TATTTTAATA  | 3600 |
|    | AAGCAATGAA TTAATATTGA GGTGAAGATA TGGGTGGATA TAAAGGTATT AAAGCAGATG | 3660 |
|    | GTGGCAAGGT TGATCAAGCG AAACAATTAG CGGCAAAAC AGCTAAAGAT ATTGAAGCAT  | 3720 |
| 35 | GTCAAAAGCA AACGCAACAG CTCGCTGAGT ATATCGAAGG TAGTGATTGG GAAGGACAGT | 3780 |
|    | TCGCCAATAA GGTGAAAGAT GTGTTACTCA TTATGGCAAA GTTTCAAGAA GAATTAGTAC | 3840 |
|    | AACCGATGGC TGACCATCAA AAAGCAATTG ATAACCTAAG TCAAAATCTA GCGAAATACG | 3900 |
| 40 | ATACATTATC AATTAAGCAA GGGCTTGATA GGGTGAACCC ATGATGAAAG ATGTTAAGCG | 3960 |
|    | AATAGATTAT TTTTCTTACG AAGAATTAAC AATTTTAGGT GGTAGTAAAT TGCCTCTCGT | 4020 |
|    | AAATTTTGAA TTGTTTGATC CATCAAATTT TGAAGAAGCT AAAGCTGCTT TAATTGAAAA | 4080 |
| 45 | GGAATTAGTA ACAGAGAATG ACAAGTTAAC TGATGCAGGT TTAAAGTGG CTACATTAGT  | 4140 |
|    | CAGAGAGTAT ATTAGCGCCA TTGTAAATAT TCGAATTAAT GATATGTATT TTGCACCATT | 4200 |
| 50 | TAGCTATGAA AAAGATGAAT ATATTTTGTT AAGCCGTTT AAAAATAATG GGTTTCAAAT  | 4260 |
|    | ACCAATTATC AATAAAGACA TTGCATGGTG GTCGATTGTA CAATCATATC CTTTATTGAT | 4320 |

CTTAAATAAT GAAAGTATCG ATACGATTGG GCGTGTTTTA GAAATTGAAA TATACAATCA 4440  
 TCAAGGTGAC CCTCAACAAA GTTTATATAA CATTTATGAA CAAAATGATT TGTTATTCAT 4500  
 5 TCGATACCCA TTAAAAGATA AAGTGCTGAA TGTTTCATATT GGTGTCATTA ATACATT 4557

## (2) INFORMATION FOR SEQ ID NO: 342:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3931 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 342:

TTGAGTGA CT TTATTGAAGC GCGTG TAGAA GAAATATTCT TCGAAGTATT TGATGTTTTA 60  
 20 CAAGATTTAG GATTAACAAA AGTAAATGGT GGGTTTATTG TAACTGGTGG ATCTGCAAAC 120  
 TTACTTGGCG TAAAAGAATT ATTATCAGAT ATGGTAAGTG AAAAAGTTAG AATTCACACG 180  
 CCATCACAAA TGGGAATTAG AAAACCTGAA TTTTCTTCAG CAATTTCTAC AATTTCTAGT 240  
 25 AGTATCGCTT TTGATGAGTT ATTAGATTAT GTTACAATTA ATTATCATGa TAATGAAGAA 300  
 ACTGAAGAAG ATGTTATTGA TGTGAAAGAC AAAGATAACG AATCTAAATT AGGCGGaTTT 360  
 GaTTGGTTTA AACGTAAAC AAACAAAAAA GATACTCATG aAAATGAAGT AGAGTCAACA 420  
 30 GATGAAGAAA TTTATCAATC AGAAGATAAT CATCAGGAAC ATAAACAGAA TCATGaACAT 480  
 GTTCAAGACA AAGATAAAGA TAAAGAAGAA AGTAAATTCA AAAAATAAT GAAATCTCTA 540  
 TTTGAATGAT TATTGGCCAA TAAAAGTAGG AGGAAATTTA AATGTTAGAA TTTGAACAAG 600  
 35 GATTTAATCA TTTAGCGACT TTAAAGGTCA TTGGTGTAGG TGGTGGCGGT AACACGCCC 660  
 TAAACCGAAT GATTGACCAC GGAATGAATA ATGTTGAATT TATCGCTATC AACACAGACG 720  
 40 GTCAAGCTTT AAACCTATCT AAAGCTGAAT CTAAATCCA AATCGGTGAA AAATTAACAC 780  
 GTGGTTTAGG AGCAGGAGCT AATCCTGAAA TCGGTAAAAA AGCTGCAGAG GAATCTCGTG 840  
 AACAAATTGA AGATGCAATC CAAGGTGCAG ACATGGTATT TGTTACTTCT GGTATGGGTG 900  
 45 GCGGAACTGG TACTGGTGCA GCACCAGTCG TTGCTAAAAT TGCAAAAGAA ATGGGCGCAT 960  
 TAACTGTTGG TGTTGTAAT CGTCCATTTA GTTTTGAAGG ACGTAAACGT CAACTCAAG 1020  
 CTGCTGCTGG AGTAGAAGCT ATGAAAGCTG CAGTAGATAC ATTAATCGTT ATACCAAATG 1080  
 50 ACCGTTTATT AGATATCGTT GACAAATCTA CGCCAATGAT GGAAGCATTT AAAGAAGCTG 1140  
 ACAACGTGTT ACGCCAAGGT GTACAAGGTA TCTCAGACTT AATCGCTGTT TCTGGTGAAG 1200

|    |  |      |
|----|--|------|
|    | GTATTGGTGT TTCTTCTGGT GAAAATAGAG CGGTAGAAGC TGCTAAAAAA GCAATCTCTT  | 1320 |
|    | CTCCATTACT TGAAACATCT ATCGTTGGTG CACAAGGTGT GCTTATGAAT ATTACTGGTG  | 1380 |
| 5  | GCGAGTCATT GTCATTATTT GAAGCACAAG AGGCTGCTGA TATTGTCCAA GATGCTGCAG  | 1440 |
|    | ATGAAGACGT TAATATGATT TTCGGTACAG TTATTAATCC TGAATTACAA GATGAGATTG  | 1500 |
|    | TTGTAACAGT TATTGCAACT GGTTTTGATG ACAAACCAAC ATCACATGCT CGTAAATCTG  | 1560 |
| 10 | GTAGCACTGG ATTTCGGAACA AGCGTAAATA CTTCTAGCAA TGCAACTTCT AAAGATGAAT | 1620 |
|    | CATTCACTTC AAATTCATCA AATGCACAAG CAACTGATAG TGTAAGTGAA AGAACACATA  | 1680 |
|    | CAACTAAAGA AGATGATATT CCTAGCTTCA TTAGAAATAG AGAAGAAAGA CGTTCAAGAA  | 1740 |
| 15 | GAACAAGACG TTAATCGGTT AATATATATA CACAAATAAT TCAACACAAA TCATCAGATA  | 1800 |
|    | ACATATCTGA TGATTTTTTT ACTAATTTTT AGAACATGTA GAAGGACATT TAAGTTTTTC  | 1860 |
| 20 | AAAGTTATTA AAAGTGTTTA AGTATCGTGT GAAAATTAAG TCaAAAATTA TTTGCGCAAC  | 1920 |
|    | ATTTTAACTT TAAACATAAA TGTATATTA TATAATTATT AACTTTGTAC AGTTAGACGA   | 1980 |
|    | AGATAATTTA AATGAAATGA TGGTGACGAT CGAGTGAATG ATAATTTTAA AAAGCAACCG  | 2040 |
| 25 | CATCATTTAA TATATGAAGA GTTATTACAA CAAGGTATTA CTCTAGGTAT TACAACTAGA  | 2100 |
|    | GGAGATGGTT TAAGTGACTA TCCTAAAAAT GCTTTTAATA TGGCGAGATA TATTGATGAT  | 2160 |
|    | CGCCCATATA ATATTACTCA ACATCAATTG CAATTAGCTG AAGAAATTGC GTTTGATAGA  | 2220 |
| 30 | AAAAATTGGG TGTTTCCCAT TCAAACACAT GAAAATAAAG TCGCTTGTAT TACAAAGGAT  | 2280 |
|    | GATATAGGCA CAAATATAGA CACTTTAACT GATGCGCTTC ATGGTATTGA TGCGATGTAC  | 2340 |
|    | ACATATGATA GTAATGTCTT ATTAACGATG TGTATGCAG ACTGTGTACC AGTATATTTT   | 2400 |
| 35 | TATAGTACAA AACATCATT TATTGCATTG GCGCATGCAG GTTGGCGTGG TACCTATACT   | 2460 |
|    | GAAATTGTAA AAGAAGTGCT AAAACATGTG AACTTTGATT TGAAAGACTT ACATGTCGTT  | 2520 |
| 40 | ATTGGACCAT CTACATCATC AAGTTATGAA ATTAATGATG ATATTAAAA TAAATTTGAA   | 2580 |
|    | ACATTGCCAA TTGATAGTGC CAACTATATT GAACTAGAG GACGAGATCG TCATGGTATT   | 2640 |
|    | GATTTGAAAA AAGCCAATGC TGCATTATTA ATTTATTATG GTGTTCTTAA AGAAAATATT  | 2700 |
| 45 | TATACGACAG CGTATGCTAC ATCTGAACAT TTAGAATTAT TTTTCTCTTA TCGATTAGAA  | 2760 |
|    | AAAGGTCAAA CAGGACGCAT GTTAGCATT CATTGGTCAAC AGTAAACAAG GAGGAGATAT  | 2820 |
|    | GTTTGCGTGT GAAAGATAAT TTACAACAAA TCTCAACACA AATTAATGAC AAAAGTGAAA  | 2880 |
| 50 | AAAATAATTT TTCAACAAAA CCAAACGTGA TTGCAGTTAC AAAATATGTT ACAATAGAGC  | 2940 |
|    | GAGCTAAACA AGCGTATGAG GCTGGAATAA GACATTTTGG TGAGAATAGA TTGGAAGGCT  | 3000 |

AATCTCGAAA AGTTAAGGAC GTTATAAACG ACGTAGATTA TTTCCATGCT TTAGATCGAT 3120  
 TGAGCTTAGC CAAAGAAATT AACAAACGTG CAGAACATAA AATTAAATGT TTCTTGCAAG 3180  
 5 TGAACGTTTC GGGAGAAGCT TCTAAACATG GTATTGCTTT AGAAGATGTT GATCAGTTTA 3240  
 TAGATGATCT TAAAAAATAT GACAAAATCG AAATTGTAGG TTTAATGACG ATGGCACCAT 3300  
 TGACAGATGA TGAAGCATAT ATTAGATCGT TATTTAAACA GTTACGTTTG AAAAAAGAAG 3360  
 10 AAATACAACG ACTCAATTTA GAATATGCGC CTTGTGATGA ATTATCAATG GGAATGAGTA 3420  
 ATGACTATCT TATTGCAGTT GAAGAAGGTG CGACGTTTGT TAGAATTGGG ACTAAACTTG 3480  
 TAGGAGAAGA GGAGTGAGCC ACTTGGCTTT AAAAGATTTA TTTAGTGGAT TTTTGTAAAT 3540  
 15 AGATGATGAA GAGGAAGTAG AAGTACCTGA CAAACAACAA CAGGTAAATG AAGCGCCAGC 3600  
 AAAAGAGCAG TCACAACAAA CAACAAAACA AAACGCAATC AAATCAGTCC CTCAAAAATC 3660  
 TGCATCAAGA TATACAACAA CGTCAGAAGA AAGGAATAAC CGTATGTCTA ATTATTCAAA 3720  
 20 AAATAATTCA CGTAATGTTG TAACTATGAA CAATGCTACA CCAAACAATG CATCACAAGA 3780  
 AAGTTCAAAA ATGTGTTTAT TCGAACCACG TGTTTTTTTCA GATACACAAG ATATTGCTGA 3840  
 25 TGAGCTTAAA AACC GCCGTG CGACACTTGT CAATTTACAA CGTATTGATA AAGTATCAGC 3900  
 GAAAAGAATT ATTGATTTTT TAAGCGGTAC T 3931

## (2) INFORMATION FOR SEQ ID NO: 343:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3150 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 343:

AATTGTCGGG GGA CTCTTAG GTTTTGT CAT GCAAAGAACA AGATTTTGTT TAACAGGTGG 60  
 CTTTCGAGAT ATGTATGTG AAAAGAATAA TAAGATGTTT TATGCATTAT TAATCGCTAT 120  
 TACTATTCAA AGTATAGGAT TATTGATTTT GACGGCAACA GATATTTTAC AAATTCCTGC 180  
 45 ACATAGTTTT CCAATATTGG GAACAATTAT AGGTTCTTTT ATTTTGGAA TTGGAATAGT 240  
 ATTGGCTGGA GGATGTGCAA CAGGtACTTG GTATCGCGCT GGTGAAGGGC TAATTGGTAG 300  
 TTGGATTGCA TTAGTATTAT ATGCTGTTAC TGCAGCAATC ACTAAAACAG GGATTTTAAA 360  
 50 GCCAGTAATG GATAAAATTA ATCAACCAAC GAATGTAAAT AGTGATATGT CTCAAACAAC 420  
 TGGCATTCCG TTTTGGGGAT TAGTCGTTAT ATTA ACTATA ATCACCATT TTCTAGTTGT 480

|    |  |      |
|----|--|------|
|    | AGGTATTAGA TATTACCTTT TCGAAAAACG ATACCATCCA TTTATTGCAG CAATTGTAAT  | 600  |
|    | TGGACTTATC GCACTCTTAG CTTGGCCAAT GAGTGCATCA ACTGGAAGAA ATGACGGTTT  | 660  |
| 5  | AGGTATAACA ACGCCTTCAG CAAATTTAGT ACACTTTTTG ATTACAGGTG AAATAAATT   | 720  |
|    | TATTGATTGG GGTGTCTTTT TAGTCTAGG AATTTTCATT GGTTCATATA TTGCAGCTAG   | 780  |
|    | AGGATCAAGA GAATTTAAAT GCGGATTGCC AGACAAGATT ACAATACGAA ACAGTGCCAT  | 840  |
| 10 | TGGTGGCATA TGTATGGGAT TTGGTGCGTC AGTTGCTGGT GGTGTCTTA TCGGTAACGG   | 900  |
|    | TTTGGTTGAA ACGGCAACGA TGAATTGGCA AGGATGGATT GCGCTAGCAT GCGATGATAG  | 960  |
|    | TTGGTGTATG GACAATGAGT CATTTTATCT TTGTTCTGCC AATGAAAAA GTACACCAAC   | 1020 |
| 15 | AATCTGCAA GGTAAACAG CAAACGCAA TAGTATAGAA GATTATTATG CAAATGATGT     | 1080 |
|    | TGATCAAATA AAAGTGATTG GAAAAGGAGA AATAATTATG ATACACGAAT TAGGTACAGT  | 1140 |
|    | AGGAATGGTA TGTCCATTTT CGTTAATTGA AGCGCAAAAG AAAATGGCAA CATTTGCAATC | 1200 |
| 20 | TGGAGATGAA TTAATAATTG ATTTTGATTG CACGCAAGCG ACGGAAGCCA TTCCAAATTG  | 1260 |
|    | GGCTGCAGAA AATGGTTATC CTGTAACAAA CTATGAACAA ATTGATAATG CTTTATGGAC  | 1320 |
|    | AATTACAATT CAAAAAGTTT AACGTTATCA TTTTAACAAT AAAATAGATA TTAGATTCTA  | 1380 |
| 25 | TGGCTACTTC CGCTAATTTA AAAGTGAGTA AGTAGTCTTT TTTTTTTTAG TTCATGAAAT  | 1440 |
|    | CATTTTTATA TAGTGTGGCA CATTTTATTC CAAAAGATGT AATAAACTT AACGCATTTT   | 1500 |
| 30 | TGCTTTTTAT AAATTGTCAG ATTATTATGA AAAAAAGGGA GTGGTAAGTA TGAATCTTAA  | 1560 |
|    | CGATACGATA TTTATGTTTT TGTGTACATT ATTAGTTTGG TTAATGACAC CAGGATTAAG  | 1620 |
|    | TTTATTTTAT GGTGGGTTAG TTCAATCTAA AAATGCGCTT AATACTGTCA TGCAAAGTAT  | 1680 |
| 35 | GGCAGCAATT GTGCTTGTTA CATTTGTATG GATAACAGTT GGTTTTACAA TTAGTTTGG   | 1740 |
|    | GAATGGGAAT TTATGGTTCT GAAATTGGGA ATATACTTTT CTTAATCATG TAGGTTTTCG  | 1800 |
| 40 | GACTCAAGAA GATATTAGCC CACATATTCC TTTCGCTTTG TTTATGTTAT TTCAAATGAT  | 1860 |
|    | GTTTTGTACG ATTGCAATTT CTATTTTATC TGGTTCAATC GCTGAGAAAA TGAAGTTTAT  | 1920 |
|    | TCCTTATTTA TTATTCGTAG TAATATGGAC TGCTCTTGTA TACAGTCCAG TAGCACATTG  | 1980 |
| 45 | GGTTTGGGGC GCGGTTGGA TTAACAACT CGGTGTATTA GATTTGCTG GAGGTACGGT     | 2040 |
|    | TGTTTATATT ACATCAGGTG TTTCTGGTTT AGTATTAGCT ATTATGATTG GAAAAGGAAA  | 2100 |
|    | CAAACATTCT GAATCAACAC CACATAATCT TATCATACG TTGAATGGCG GTATATTCGT   | 2160 |
| 50 | GTGGATTGGT TGATATGGAT TTAATGTAGG TAGTGCTTTT ACATTTGATA ATATTGCGAT  | 2220 |
|    | GTGGATTGGT TGATATGGAT TTAATGTAGG TAGTGCTTTT ACATTTGATA ATATTGCGAT  | 2280 |

|    |  |      |
|----|--|------|
|    | ATTAGTTGTC ATTACTCCTG CAGCAGGATA TGTAACATAT CTTAGTGCAA CAATAATGGC  | 2400 |
|    | TTTAATAGGA GGTATCTGTT GTTATATTGT CATTAAATTAC ATCAAGGTAA AACTAAAATA | 2460 |
| 5  | TCATGATGCA TTAGATGCAT TTGGTATTCA TGGTGTGGT GGTATTATTG GTGCTGTTTT   | 2520 |
|    | AACAGCAGTT TTCCAAAGTA AAAAAGCCAA TCCTGACATT GAGAATGGCT TTATTTATAC  | 2580 |
| 10 | TGGTGACATA CATATTATAC TTGTACAAAT ATTATGTGTA ACAGCAGTTG TAATTTTTAG  | 2640 |
|    | TATAGTCATG ACGTTTATTA TTGCGAAAGT AATTAAATTa ATTACACCAT TATCTGTTAC  | 2700 |
|    | GGAACAAGAA ACGAATATAG GATTAGACAA GATTGTTCaC GGTGAACATG CTTACTTTGA  | 2760 |
| 15 | AGGTGAGCTA AATAGATTCA ATAAACATAT TCGATATTAG AATATATTTA CATAGAATAT  | 2820 |
|    | TCATTGTCCT GACATTTAAC TAAAGGTTGA TGTGGGACA TTTTGTTATA CAAAAGTTTT   | 2880 |
|    | ATTTTGAAAT CTTTTTATGA AAGAAGCAGA AATATTATTT AAAGCGGTTA CACATATGCT  | 2940 |
| 20 | AAAATAAGGC TAAGTGTCAC AAATAATGAT AGGTGAATAA GTATGAAAAA TATATCTGAT  | 3000 |
|    | ATTGCCAAAT TGGCAGGCGT TTCAAAAAGT ACAGTATCTA GATTTTTTAA TAATGGATCT  | 3060 |
|    | GTCAGTAAAA AAACAAGTGA AAAATTAACA AGAATTATAG CAGAACATGA CTATCAACCG  | 3120 |
| 25 | AATCAATTTG CTCAAAGTTT AAGAGCGAGA                                   | 3150 |

## (2) INFORMATION FOR SEQ ID NO: 344:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3719 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 344:

|    |   |     |
|----|---|-----|
|    | GTTATAGTGA AATTGACTCA TCACATTTCA CAGACCGTGA CAAACGCGTT ATTAGACGTG | 60  |
| 40 | ATCATGTTAA AGAAGCACAA AGCTTAGTAG AGAACTATAA AGATACACAA AGTGCTGATG | 120 |
|    | CTAGGATGAA AGCCAAACAA AAAGTTAACA CATTAAAGCA ACCGCATCAA AACTATTTCA | 180 |
|    | ATAAACAAAT TGATAAGGTT TATAATGGAT TACAACGCTA ATCCAAAGTA AATTATAAGT | 240 |
| 45 | TATACATCTC GTTTTTAAAT GACAATTTAT CCCCCTAAAT ATTATAAATA ATCTTTTCAA | 300 |
|    | ATTCCACATA GATATAGAGA CACTAATAAA CCTCTTTGTC TCGATATGAT AGTCTGCAAC | 360 |
| 50 | GATTCATGTT GTAGGCTTTT TAATTTTACA AATAAGGCTA AATATATAAG TTCTGGCACC | 420 |
|    | TAAAATATAG AAAATACATA AAAGTAAGTA TAGTTATTTT ATTATAATTA TTAAATTTTT | 480 |
| 55 | ATTAATTAAT TGTA AAAATG TATAATTATA ATTAATTAAC GTTAAATATT AAAATTAAC | 540 |

|    |  |      |
|----|--|------|
|    | ATCGTTTCAA TATTACTTAT AGGGATGGCT ATCAGTAATG TTTCGAAAGG GCAATACGCA  | 660  |
|    | AAGAGGTTTT TCTATTTTCGC TACTAGTTGT TTAGTGTTAA CTTTAGTTGT AGTTTCAAGT | 720  |
| 5  | CTAAGTAGCT CAGCAAATGC ATCACAAACA GATAATGGCG TAAATAGAAG TGGTTCTGAA  | 780  |
|    | GATCCAACAG TATATAGTGC ACTTnCAACT AAAAAATTAC ATAAAGAACC TGCGACATTA  | 840  |
|    | ATTAAAGCGA TTGATGGTGA TACGGTTAAA TTAATGTACA AAGGTCAACC AATGACATTC  | 900  |
| 10 | AGACTATTAT TGGTTGATAC ACCTGAAACA AAGCATCCTA AAAAAGGTGT AGAGAAATAT  | 960  |
|    | GGTCCTGAAG CAAGTGCATT TACGAAAAAA ATGGTAGAAA ATGCAAAGAA AATTGAAGTC  | 1020 |
| 15 | GAGTTTGACA AAGGTCAAAG AACTGATAAA TATGGACGTG GCTTAGCGTA TATTTATGCT  | 1080 |
|    | GATGGAAAAA TGGTAAACGA AGCTTTTAGTT CGTCAAGGCT TGGCTAAAGT TGCTTATGTT | 1140 |
|    | TATAAACCTA ACAATACACA TGAACAACCT TTAAGAAAAA GTGAAGCACA AGCAAAAAAA  | 1200 |
| 20 | GAGAAATTAA ATATTTGGAG CGAAGACAAC GCTGATTCAG GTCAATAATG CTCATTGTAA  | 1260 |
|    | AAGTGTCACT GCTGCTAGTG GCACTTTTAT AATTTT TAGA TCACGATATG ATTTATTATC | 1320 |
|    | AATTCAGAAT TAAAAAGTA AATAGTATCA AAAGTAACTG TATTTAATAT TAGAAAAATA   | 1380 |
| 25 | AAATTTTAAA TTTAGTATTA AAATGGAATG TTACTATATA GTTCAATGTG TATTATCACA  | 1440 |
|    | GAAAAATAAA TAATGCTTTA CTTCTATATT TAAAAGTGTA TAATGAAAGT TAAGTAATAA  | 1500 |
|    | AGAGCGTGAA GAAAAATGTG AGTTATTTAT ATAGAATATT CTCCTTTTCA TTTATGAATT  | 1560 |
| 30 | TGTTACAAAA TATTTAGTGC AAAAGCACGA cGGAGGTATT CAATATGaAT AACGGTACAG  | 1620 |
|    | TTAAATGGTT TAATGCAGAA AAAGGTTTTG GTTTCATCGa AAGAGAAGAT GGTAGCGACG  | 1680 |
| 35 | TATTCgTACA CTTCTCAGCA ATCGCTGAAG ATGGATACAA ATCATTAGAA GAAGGCCAAA  | 1740 |
|    | AAGTTGAATT CGACATCGTT GAAGGCGACC GTGGCGAGCA AGCTGCAAAC GTAGTTAAAA  | 1800 |
|    | TGTAATTTTA ACTTATTCAA ACAGTCCTTA CTATAGGGCT GTTTTTTTAT GCTTTAAATC  | 1860 |
| 40 | GATAACAGTT GGTGTGGTAA AAGCACTAGC CGTTATTTTT TTGTCCAATA AATTTAGTTG  | 1920 |
|    | GAGATTTAAC AATATATAAT GGTTCATAAA TAAATCGAAC TGATGGAAAA GTTTTTTACT  | 1980 |
|    | TTTCATCTGT CCGACTTTTG ATTTTGAATA TAAAAAGCG CCAATACAGA ACTTTAATAA   | 2040 |
| 45 | TGACGAGAAT TAAAGTCTGT ATATGGCGAT AACAAGAAGT AATGTTA AAC ACTCAAATG  | 2100 |
|    | TTTAACAATA ATAGGATACC ACATCGCATA ATATCTTACT ACTTAATTAA TAATTTAACT  | 2160 |
|    | AATCAACTTT TTGTAAATTT TTTATTAAGA CTGATTAAAT ATTGAGAATA TTTATTGTTT  | 2220 |
| 50 | TTAAAATCTC ATAATAATTC AGTAATCTTG TTTTCATTTA AAAGGCGAAA CATTAAAAATA | 2280 |
|    | TTAAATCTC ATAATAATTC AGTAATCTTG TTTTCATTTA AAAGGCGAAA CATTAAAAATA  | 2340 |

ATTTCTGTGA GTATTTGGAA GCTACCATTA GGCAACGGTT TAACAATAGA CAATTGCTTT 2460  
 TCCGCTTGTT GTATTAAAAA AGGTTTTGTA GATTGATTAT TAATATGCCA TTCACTCATG 2520  
 5 TATGTTTTTC ACTCCTGCTT TAAAATAGGG TTAGAAAGTT TATAGTTGAG ACATTCATGT 2580  
 TCAACCAAAA TTTTGTTCGA ATTCATAAA TGTCTTGTTT AAAATAGAAA TATTGTAAAT 2640  
 GTTATCGTCC AAAACTTCAC CAGTTAAGTA TTTGTTTTGA ATTAAAATTT GGCAGTTAGT 2700  
 10 TAAGAAGTCT TGATAATCAC GATCGCAAAA ATAGTTTTCA CGTGCATCTT TAGCATCGCC 2760  
 AAAAAAGTTA GCGACTGTTT CTGTTTCTCC TTTATTCGAA CGTTCATAT ATAATTTGTA 2820  
 AAATTTAGCT ATTGTATACT TTTGTTCTTT AGTTAGTTCA TTCAAAATAT TGGGCCTCCT 2880  
 15 GAAATATCAT TTGTAATCTA TACCCAATTT ATTGCAAAAC AAAAACTAAT TTAATTTT 2940  
 GATGAAACTG TGTTAATAAg CTTTAACAAG CCTTAGTTTG TATGGATCTA TAAAATTATC 3000  
 20 TTTAATTGCA TAGGGTGAAA TAATATGTAG TCCATAACTT TTAAGTATT TTTCACTTAC 3060  
 ACCAAATTTA TAAGCTTGGT AGATAATTTT AGTACAATAC GTAAATTTTT TGCTGTTCAA 3120  
 ATTTAATGTA ACTAGATAAC GATGATTTGT ATTCTCATAG TTTTCTTAA CCCATTGAGC 3180  
 25 CGCTTTTTTA CCTGCACCAG GATAGCTGCA ACGATAAACT TTCATCCAAT CATTTTTGCC 3240  
 ACTTGCATAA TTATATTTAA AAGATTGCGA GGATTGTGTA GTTGGTTTGT CGCCAGGCCC 3300  
 CTCAATTTGT AAAATCGTTT TATCATCAAT CGCGATACTA CAATGACCAA AAAATCscCA 3360  
 30 CATGACAGGG CCTTTTGTA CAATAATATC ACCAGTTGT AATTGGAATT TGTCATCTTG 3420  
 AATTTCTGAA TACTTATTAT CTGCAATTGT TTTGGTGAG TTTATTGGGG ATACGACAAC 3480  
 GAATAATATA AGTAAATTA TCGTTCGTTT AATATAGTTC ACTTAAAAGC TCCTTGTTGA 3540  
 35 AGAAATATAT GTAAATAGTC TTAAATTAGA ATTGTAATCT TTAATAAGCT TGtAAGACTA 3600  
 AAACATATCT TAAATATTAA AGTATGAGAG TGTGAAATGT CTATTAAGAA TnAAAAACAG 3660  
 40 TCTGAAACAT CATTGAGACG TTCCAGACTG GATATAAAAT GAATTTTATT TATAGACA 3719

## (2) INFORMATION FOR SEQ ID NO: 345:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1676 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 345:

TTGCGTTGCC GCACCAAGAT ATTGAATGCC TAGCGATTCC GAGTATGCAA ACTGAACGCA 60

|    |   |      |
|----|---|------|
|    | CTCTTTAATA CGCGTTATCG CTTTTGTAA ATCTGCATCA TGATAACAAA TCATAACGCC  | 180  |
|    | ATAGCCACCT GCTGTCGGAA GATCATCTCC CGGCTTAATT ACTAACGGGA ATTCCCAATT | 240  |
| 5  | CTTAATCTCG TTTTCGAATT GCTCAATTTT TACAACTTTT CTTTTTGGTA AAAACTTCCC | 300  |
|    | ATTTGTCCAT TCAGGTATTC TTGCTTTATT ATTTAAAGCA ACAAATAACG TTTTATCTAA | 360  |
|    | TGCATAATAT TGCTGATTCA AGATTGTTTC ATCATGAATA TATTGAAAAT AAATCTTTTT | 420  |
| 10 | ATTTTCCTTA TGTGCCAATT GTTTGATCAA GTTTTCGTAA GATTGCTGAT TGTAAATGT  | 480  |
|    | ATAAATTGAG TTCGGTACTT CCTTACCAAT AACTTGAAAT AGCTGATGCA ATTTGTCTGT | 540  |
|    | CGCACTAGCT TCGTGAACAA TAACAGGTAA TTGATTGCT ATTAATAACT CCCTACCAGT  | 600  |
| 15 | TAAAAAATTA GATTGATGTT CGTCCGGTTT CAACCATGGA TTCGATATAT ACGAAGGTCT | 660  |
|    | TGACGTATAG ACAACATCTT TGTCATATAA ATCACTTAAC GTTAAGTTCG GTCATTACC  | 720  |
| 20 | ATTATTTGTC ATTACTTCCC ATTCCCTTTC AAATGCGCAT GCTCTTCAAT AATGCTTGA  | 780  |
|    | TAAACGTCTT GATTTGTAAT TAACTCTAAC CCCATCAACG CCATTATTTT AGCGCCTTAA | 840  |
|    | ATTAATGCTT CATCACCATG TACACTCGCA GCCGCTTCTC TAAATCTATG CGTATGTCCT | 900  |
| 25 | ACTAAATTAC GTGATCCTAT TTTAATATGA GGATGTATTG TTGGCACAAC ATgactTACG | 960  |
|    | TTCCCTGTAT CCGTAGAGCC ATAACCAAAA TCATCATCAA TAACTGCTTC ACCAACTTCT | 1020 |
|    | TCAGCATATT TAGCAAATAA ATCATCTAAT TTCGGCGTTT TAATGAATTC ATTCACACCG | 1080 |
| 30 | TTTTGAATTC GACCAAATTC ATAATCACA CCAGTCTGTA TCGCAGCTCC ACGTGCATG   | 1140 |
|    | TGATTTACTT TTTCTGTAA TATATCCAAT TCTTTACGCG TCATTGCTCT AGTATAAAAA  | 1200 |
|    | CGAGCATGTG TATAGTCTGG AATAATATTA GCTGCTTTCC CGCCATCTAA AATCACACCA | 1260 |
| 35 | TGCACACGTT GATCTTTTTT AATATGTTGT CGTAGTTGTG CTACACCATT AAAATAACTA | 1320 |
|    | ATCATAGCGT CTAATGCATT TAACGCTTCA TCTGCATTTT CAGAGGCATG AGCACTTTTT | 1380 |
| 40 | CCGTAAAATT TAACATCTAA AACATCCACT GCCAAAGTAT CAATCGTTTT ATAAGTTTCA | 1440 |
|    | TTTCCCGGAT GAATCATTA GCAATGTCT ATTTGATCAA TCACACCAGC CTTGACATAA   | 1500 |
|    | GAAGCTTTAG CGCTACCATT TTCCCCACCT TCTTCAGCTG GACATCCAAG AACGACTACT | 1560 |
| 45 | TTACCACCAA TTTGGTCAAT CACTTGCTTC AAACCAATTG CACCAAGAAC ACTTGCAGTT | 1620 |
|    | CCAATGATAT TATGACCACA AGCATGACCC AATCCTGGCA AAGCATCGTA TTCTGC     | 1676 |

(2) INFORMATION FOR SEQ ID NO: 346:

(i) SEQUENCE CHARACTERISTICS:  
 LENGTH: 1676 base pairs

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 346:

5 TACAGTAGGA ATCATAAAAC CTAATACAAC AAATACAAAA CCATTTAAGG CATAACTAAA 60  
 TGTGTTCCAA ATTTGATGGT AATTCATTG TAGTTCGGT TGTGCTCTAA TTAAACGGTC 120  
 10 GCGTTCTAAA CCATGGATTA GACCTGCGAT TACAACTGCA ATGATACCTG AAGCATGAAC 180  
 TTCTTCTGCT AAAAAGTATA CGACAAAAGG AGTTAATAAT TGAATAAAAG TTAAGGTATT 240  
 GTTATCTTTT AAACCTTTAT TAGCGGTTAA GTCTATACGT ATTCTAACGA CAACGAATCC 300  
 15 AATAATTGCA CCAATAAGTA CACCTAGTAT TGTTGAAATG ATAAATTGTT CAACAGCTTG 360  
 GAATAATGAA AAGGTACCAG TTAATAATGC AGTAACAGCA ATTTTAAATG AAATGATACC 420  
 TGCTGCATCA TTGAGTAAAG ATTCACCTTC TAAAATCGTC ATAGAACCTT TAGGTAATAA 480  
 20 TTTTCCGCGT GTAATAGCAG ATACTGCTAC TGCATCAGTA GGACATAAAA TTGCTGCTAT 540  
 TGCAAAAGCG GCTGGCATTG GTAAGGCAGG CCAAATCCAA TGTATAAAAT AGCCAACACC 600  
 GACTACAGTT GCAAACACTA GTGCCATTGA CATTAATAGT ATAGGTTTAC GATATTCTAA 660  
 25 TAATTTTGTT CGAGAGACGT GGTACCTTC CACAAAAAGT AGTGGCGCGA TAACGGCAAA 720  
 CATAAATACT TCAGAATTGA ATTGGAAATC AACTTGTATT GGAATAATGA AAATAACGAC 780  
 30 ACCTAATGCA ATTTGAATAA AGGCAGTAGG AATTTGTGGG AATCGATTAT TGATAACCGA 840  
 ACTAATAATC ACAGCAAAAA TAAAAATTAA AAATGCTTCT AATAGTGCCA TACAATACTC 900  
 CTCAAAATTT TAATAGTTAA TATTTTATCA CTTTAAAGGC ATAATGACAT AGATATATTG 960  
 35 ATAAAAATGAA GTTATTTTCA AAAAACTCT AGTATCGGTT GAACTGATAC TAGAGCGAGA 1020  
 TGTTTAAATT ATTGATTGTC ATATCTGAAA TGACCGCTGT CATTTTGTCTG TTGTTCATAC 1080  
 GCGAGCTTTT CAGCATTCTG TTTGTATTTT TtATAAAAGa AAAATAaAAA TATnAACCAG 1140  
 40 AATGGCGAAA TATAAATAGC TGCTCTTGtT TCGTCACTAA AGAATAATAA AATGAATACA 1200  
 AAGAAGAAGA ACGCTAGAAT AATGTAAGCA ATAGGCTTAC CACCAATCAA CTTAAATTTA 1260  
 45 CTGTTTTTAT GTGCCTCAGG ATGCTTTTTTc AAAT 1294

## (2) INFORMATION FOR SEQ ID NO: 347:

## (i) SEQUENCE CHARACTERISTICS:

50 (A) LENGTH: 1935 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

|    |  |      |
|----|--|------|
|    | ACATGATAAT GATGACGCTA TTAAAACACG TTTTTTATTT TTCATTGTGA TAACCTTCTT  | 60   |
|    | TCGTATGATT GATATTTGTT GATATGTATC GACATGTGAA TAATATCACA AAAACAGAGA  | 120  |
| 5  | ATATATATTT AACTATTTAT TAAATGATTT TGTAAATATT ATTAAATACT TTATCCTCTT  | 180  |
|    | TAAAAATAAT GTGTGTACAA AGTCATTAAT TTAGCAAATA TTTTATTTA GTAGTTAATA   | 240  |
|    | ACCATCGATT TGAAATTTAT ATATAATTAT TAGCTAAATA ATATCCTGCA TCTTCTCAT   | 300  |
| 10 | ACAATTTACT ATAAATAGC ATATCCGATA TCAGCGTTAA TAAGATCGTT GATACTAGmC   | 360  |
|    | AGTTAATTTT ATAGAACGAA ATCAAATAAC ACACTACTTT CTGCATTTTA AATTATGTTT  | 420  |
|    | AAGAATCAaA ATTATGTTTA nATAAATATA TATACTACTT TGAAAGGTGT GAGCTTAATG  | 480  |
| 15 | ACAACTTTTA GTGAAAAAGA AAAAATTCAA TTACTAGCAG ATATTGTTGA ACTACAAACT  | 540  |
|    | GAAAATAATA ATGAAATAGA CGTTTGTAAT TATTTAACAG ATTTATTCGA CAAGTACGAT  | 600  |
| 20 | ATTAAATCTG AAATTTTGAA AGTTAATGAA CACCGCGCCA ATATCGTTGC AGAAATCGGT  | 660  |
|    | AACGGCTCAC CTATACTCGC ATTGAGTGGT CATATGGATG TTGTTGATGC AGGAAATCAA  | 720  |
|    | GATAATTGGT CATATCCCCC TTTTCAACTG ACAGAAAAAG ATGGCAAATT ATATGGCCGA  | 780  |
| 25 | GGCACTACAG ATATGAAAGG CGGTTTAATG GCTTTGGTCG TATCTCTAAT CGAATTAAAA  | 840  |
|    | GAACAAAATG AATTGCCTCA TGAACGATT AGATTACTGG CTACTGCTGG CGAAGAGAAA   | 900  |
|    | GAACAAGAAG GTGCCAAATT ATTAGCTGAT AAAGGCTATT TAGACGATGT CGATGGCTTA  | 960  |
| 30 | ATTATTGCTG AACCAACTGG ATCTGGAATT TATTATGCAC ATAAGGGGTC TATGTCATGT  | 1020 |
|    | AAAGTAACTG CAACTGGTAA AGCTGTCCAT AGCTCAGTTC CATTATTGG TGACAATGCA   | 1080 |
| 35 | ATTGATACAC TGCTTGAATT TTATAATCTA TTAAAGAAA AATATTCAGA GCTTAAACAA   | 1140 |
|    | CAAGATACTA AACATGAATT AGATGTTGCG CCTATGTTCA AATCATTGAT TGGAAAAAGAA | 1200 |
|    | ATTTCTGAAG AGGATGCAAA TTATGCATCT GGTCTTACAG CTGTATGTTT GATTATAAAT  | 1260 |
| 40 | GGCGGcAAAC AATTTAACTC TGTACCAGAT GAAGCTTCAC TTGAATTTAA CGTAAGACCA  | 1320 |
|    | GTTCTGAGT ATGATAACGA CTTTATAGAA TCGTTTTTCC AAAATATCAT TAATGATGTG   | 1380 |
|    | GATAGCAATA AGCTTTCAC TCGATATTCCA AGCAATCACC GACCTGTAAC AAGCGATAAA  | 1440 |
| 45 | AATAGCAAAT TAATTACTAC GATTAAAGAT GTAGCTTCTA GTTATGTAGA ACAAGACGAA  | 1500 |
|    | ATATTTGTTT CAGCGCTTGT AGGCGCAACA GATGCCTCTA GTTCTTAGG AGATAATAAG   | 1560 |
| 50 | GACAATGTTG ATTTAGCCAT TTTTGGACCA GGTAATCCAT TAATGGCACA TCAAATCGAT  | 1620 |
|    | CAATATATTG AAAAAGATAT GTATCTGAAA TATATTGATA TTTTAAAGA GGCTTCCATT   | 1680 |

TCAAATATCA ACAAGCACAT TTTCATTGAT TAAGTGATGT AAAACTGAAA TTATTGTGCT 1860  
 GATTTGTCAT ACATATATTG ACTAATGGGC ATATAAAAAG ATAGCCTCTA ATAGTnACAT 1920  
 5 AAACTCGTAA AAnCC 1935

(2) INFORMATION FOR SEQ ID NO: 348:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1351 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 348:

CCTTTnCTTA AACAAATTTTT AGATTTAGAC AACAAACCGA TTTTAATCCA TACATTAGAA 60  
 20 AnATTTATTT TAATTAATGA TTTTGAAAAA ATTATTATCG CGACGCCACn ACAATGGATG 120  
 ACGCATACGA AAGATACACT TAGAAAATTC AAAATTTCTG ATGAAAGAAT TGAAGTCATT 180  
 CAAGGTGGTA GCGATCGTAA CGATACAATT ATGAATATCG TTAAACATAT TGAATCAACA 240  
 25 AATGGTATTA ACGATGACGA TGTCAATTGTG ACACATGATG CAGTTAGACC ATTTTAAACG 300  
 CATCGTATTA TTAAAGAAAA TATTCAAGCT GCTTTAGAGT ACGGTGCGAT AGATACAGTG 360  
 ATTGATGCTA TAGATACGAT TGTTACATCT AAAGATAATC AAACGATTGA TGCAATTCCA 420  
 30 GtGCGTAATG AAATGTACCA AGGTCAAACA CCTCAATCGT TTAATATTaA TTTATTAAAA 480  
 GAaAGCTATG CACAGTTGAG TGATGAGCAA AAGAGTATTT TATCTGATGC TTGTAAGATT 540  
 35 ATTGTAGAAA CAAACAAACC GGTTCGACTT GTAAAAGGTG AGTTATATAA CATTAAAGTA 600  
 ACAACACCTT ACGATTTAAA AGTAGCGAAT GCTATTATTC GAGGTGGTAT TGCCGATGAT 660  
 TAATCAAGTA TATCAATTAG TTGCACCTAG ACAATTTGAA GTTACGTATA ACAACGTAGA 720  
 40 TATTTACAGT GACTATGTCA TTGTACGTCC TTTATATATG TCAATTTGTG CTGCCGATCA 780  
 AAGATATTAT ACTGGTAGCC GTGATGAGAA TGTCTTATCT CAGAAATTGC CAATGTCTTT 840  
 AATTCATGAA GGTGTTGGTG AGGTCGTATT TGACAGTAAA GGTGTGTTTA ATAAAGGTAC 900  
 45 AAAAGTAGTT ATGGTACCGA ATACGCCGAC AGAAAAAGAC GATGTCATTG CTGAAAACTA 960  
 TTTAAAATCG AGCTACTTCA GATCAAGTGG ACATGATGGG TTTATGCAAG ATTTTGTGTT 1020  
 50 GCTAAATCAT GATAGAGCTG TACCACTACC TGATGATATT GATTTAAGTA TTATTTTATA 1080  
 TACAGAGCTT GTAACAGTAA GTTTGCATGC TATTCGTCGT TTTGAAAAGA AATCTATTTT 1140  
 AAATAaAAAT ACATTTGGTA TTTGGGGTGA TGGTAACTTA ggTTACATTA CAGCCATTTT 1200

GAGTCACTTC TCATTTGTTG ATGATGTCTT CTTTATTAAT AAAATACCTG AAGGCTTAAC 1320  
 ATTTGATCAT GCATTTGAGT GTGTGGGTGG T 1351

(2) INFORMATION FOR SEQ ID NO: 349:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 411 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 349:

TCATCAAGTC TACGATAAAT TAAGTCCATA TCTAAAGGCT CGGGGTCGAC AGTTTGTAAG 60  
 GTATAACCAA CTGCACAGTG GCTACAACGC ATATTACAAA GATTTGTAGT TGTAATTCG 120  
 ATGTTACTTA AAGTTAATTG GCCATGTTCT TTAACATCGT TATATGCTTC CCATGGGTCTG 180  
 TTTGAATAC TTATTTTAGG CTTGTTATTA CGCATTTTAT AAATCCTTA ATTGTTATTT 240  
 GATACCAATT TGATACCGTT TAATCAAATA TGCTCATAGC TTGATGTTTT TTATCAGTAT 300  
 ATAAATGAGA GTACGTTTGA ATTGTTTCTG TAATGTTAGA ATGCCTCATT AATTCCATTA 360  
 ATAAATACAT ATCTACACCA TTATTAATTA AaTAGCTAGC GTACGAGTGT G 411

(2) INFORMATION FOR SEQ ID NO: 350:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1639 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 350:

TCATTTTCAT AGGTTATTAC GCAGATCAGC ATAATAATCC ATTCCATATG AGTcCTTATT 60  
 TTGGTTATGC AGCACGTCTA TTGGCAACAA GTGGCATTGA CTATACGTAT GTAAGAATGG 120  
 CAATGTACAT GGATCCACTT AAACCATATT TACCAGAATT GATGnATATG CATAAACTGA 180  
 TTTATCCnGC TGGCGATGGT CGTATTAATT ATATTACTAG AAATGATATT GCTAGAGGTG 240  
 TCATTGCTAT TATTAAAAAT CCAGATACTT GGGGCAAACG CTAATTATTA TCAGGCTACA 300  
 GTTATGATAT GAAAGAACTT GCTGCAATTT TATCTGAGGC ATCaGGCACA GAAATTAAAT 360  
 TTTAGGCTTT TTTATTAGAG ACATTTGCAG AAATGTATGA TGAACCTAAA GGCTTTGGTG 420

TTAATAATAA AGGAGCGTTA TAGTGAATAT CATCTCAACA ATTtTAATCA TATTTGTGGC 600  
ATTAGAGTTT TTCTATATTA TGTACCTTGA AACGATTGCT ACAACTTCCA AAAAGACTAG 660  
5 CGAGACATTT AATATAAGCG TCGATAAATT GAAAGACAAA AATATTAAACC TACTTTTGAA 720  
GAACCAAGGC GTATATAACG GTTTAATCGG AGTTTTGCTA ATATACGGTT TGTTTATCAG 780  
10 CAGTAATCCA AAAGAAATAT GCGCAGCTAT TTTAGTGTAT ATCATTGGCG TTGCTATTTA 840  
TGGTGGCCTT TCAAGCAATA TTAGTATCTT TTTCAAACAA GGCACATTGC CAGTATTGGC 900  
ACTCATATCA ATGCTTTGGT AAGTATTGGT GTTTGGGGGG GTGGAGATGT AGTCGGAGGT 960  
15 TTGGAGGATT TGAGCGAATT GTGTGTGGAC TTTAGACTCA GAGTATTTCA TCCTAATTAT 1020  
TTCAAGCAGA GGTGACAGTA GCGTTGCCTC TGTTTCCTTA TAAAAAATT ATTTAATGAA 1080  
GAAAACCCAT ATCTGATTTA ATTTTCAGCT GATAAATACT CCATATATTA GAATGGCTAC 1140  
20 TTTATCTATT GCATCAATCC TTTAAAACAA AAAACCCATG ATTTTCGAAAT TCCCGTATGA 1200  
TGGGGTTCCT ACTCTCATGG ATCAGTTAAA TAAATATTAT CACTATCAGT TTATTATTTT 1260  
AATATTATTA ACAATATATG TAGTCGTAAA AGGAAAGAGG ACATGAGAAC TTCGGTGTG 1320  
25 ATTGGCATTa CATAACGCTT CCAAACATAT TATTTGGTAA CAATAAGAAA CTATTTACAC 1380  
AATATATTTT GTATAGTAAA ATTATTTTAT AATATTTAAA TCCAATTGCA CAAGGAGTGA 1440  
30 TTATCaTGGT ACCAGAAGAA AAAGGTTCTA TTTACTTTGTC AAAAGAAGCA GCTATCATAT 1500  
TTGCAATCGC AAAATTCAAA CCATTTAAGA ACAGAATTAA AAATAACCCA CAAAAACAA 1560  
ATCCATTTCT TAAATTACAT GAAAACaAAA AATCTTAATC ACTTTtATTT ATAGcATTTT 1620  
35 TAATCTCAGA AATGCTATA 1639

(2) INFORMATION FOR SEQ ID NO: 351:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 1816 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 351:

AAAATCGCAT ATAGTAATAT GAATAACCAG ATTGTATCTA CAAAAAAGTA TATTGAAAAA 60  
50 CCAAGCGCAC CCATTAATAA TGCGAGAATA ATAATAATTT TTCTATTAAA GTGATGCGTA 120  
TCCGAAAATC TAGCAATAAT TGAATTTACT GTAAACTGGC TAATCGCTGC AGATGCTAGA 180  
AGTAATCCAT ACTGATTTGT TGTACATACCT AAATCTTTAG TTGCAAAAAG AACAAAGATAT 240

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|    |  |      |
|----|--|------|
|    | TTCTyTATTT GTAAaTAACGC TGCAAACATA TCCATAACCC CGCTTCTTAG AGCCCCTTTT | 360  |
|    | AATThATHAA TTAGGGGCTC TTATGCAGTT GGTGCATTAG CAACCAACTG TATTCCTTTG  | 420  |
| 5  | TCCCCTTTTTA ATTTATTaAT TAGGGGCTCT TTTGCTGTTG GTGCATTAGC AACCAACTAC | 480  |
|    | GTTCAATTTA ACCGAATAGT TTAaAATTAA ATACAAACCT TAAATTAGTC TAAAACTACG  | 540  |
|    | CCTTTGGTTG TTCAACAAAG CTCGCCATGA GATTTACAAA AGAATCAACT TGTGGCAATT  | 600  |
| 10 | GCAACATGCT CGGATCATAA CTCATAAATG TCGAACGAAT CAGCGGTTCA TTATCAATTT  | 660  |
|    | CTACTTTTTT AAACCTCAAT TGTTCTTTGC TGATATTTTT CATCATAATT TCTGGCAAGA  | 720  |
|    | TTGTAACACC TACACCACTA ATCAACATTT CTTTGCAAGT TGCTACTTGA TCCACTGTAA  | 780  |
| 15 | TAGTTGCATG GTAATCTTGT TCTAAATTAT CGTTATACCA TTCTTTTATT TGATTTATAT  | 840  |
|    | AAATCGGATC AGCTTGAAAC TCTATAAATG GTAACCTTGT AACATCATCT CGTCTATTTT  | 900  |
|    | TTGGAAAAAT AAAATAATGA TCATCATTAA ATAAATGTGT GTTAGCTAAA TTCATTACCT  | 960  |
| 20 | TATTTCCACG AGTTATCATA ACATGATAAT CTCTATGATT TGCTTTAATT TGTTCAAGTTG | 1020 |
|    | AACCAACTTG CACTTGTTATT TCAACATTAG GAAATTGGGC ATTATATAGG CTCAAACTT  | 1080 |
| 25 | CAGGAAGTAA GGTGTGTCCA ATCAAAGAAG AACACCCGAT TGATATTGTT CCATTCACTT  | 1140 |
|    | CACCAATATG TGCCTGCATT TTGTCAAAAA ATAATCGCTC TCTTTTCAAC ATGTCACGAG  | 1200 |
|    | CATGCTCAAT AATCATTGTT CCTTCAGTTG TTGTAATCAA TTGTTTTTTT GTTCTGATAA  | 1260 |
| 30 | AAATATCTAC TCCAAAAGCA TTTTCAATAG CTTTtagTCT TTGTGTAACA GCAGGTTGAG  | 1320 |
|    | ATATATATAA AATTTcAGCC GCTTTACGTA ACGTTTTTCGT TTCGTCTAAT GTTATTAGTA | 1380 |
| 35 | AACGATAGTC TTCAATCTTC ATAATTTCCC CCCATAAATT ATTCAATTAT TGAACTTTCA  | 1440 |
|    | TGGCTACAAG CATTCATGAG TTCATTACTA ACGAATAATT TCACCAATTT TATTGGTATG  | 1500 |
|    | GCTGCAGCTT GAATTACTTA GTTTTTCTTT TGTTGTTGGT GATTTTTAGT TTGATTATAT  | 1560 |
| 40 | TGCTTAGGCT TTATTTGTTT GCTTTTTTCA ATATTAGTTT TATTTTGTGG CTTTGTATGA  | 1620 |
|    | TTTTTTTGAG CCTTTGCATT AATTTTATTA AAGCAGTACA TGATTTTCTT TTGGAATCCT  | 1680 |
|    | TTAAAATCAT TTTCTAACTC TGCCATAAAT TGATGTGCAA TCATATATGC TTCATGAAAT  | 1740 |
| 45 | TGCTTTTTTG TAATTTGCTC ACTTTCTAAT GCAAACATTA AATCATCTTC ATCTACCAAC  | 1800 |
|    | TCATaTcACC ACTTGG  | 1816 |

50 (2) INFORMATION FOR SEQ ID NO: 352:

(i) SEQUENCE CHARACTERISTICS:

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 352:

|    |  |      |
|----|--|------|
| 5  | GCGTTGTCGT CGATGATTAA TAAAGTATGG GTATACCATT AAGAATAACG CTACCCAAAT  | 60   |
|    | gAkTGCTAGT GACGTGCCGC CAATGACATC TGAAAAGTAA TGTGCATGAA AATAAAGGCG  | 120  |
|    | ACAAAATAAT ATGCTAAGCC ATAATATTCC CATAACCAAC GCACTCAACA CTTTTGTTAT  | 180  |
| 10 | TGTCTTAGCA GCAAGTGAAA TAATAATGAT CATTAAAGGCG AAATATAATA ATGTGCTGGC | 240  |
|    | GTTGGAATGT CCACTCGGAA ATGAAAAGCC TGTATCAACG GCTAAATGAT TATATGGTCT  | 300  |
|    | TGGACGTAAT ACAGTATCTT TAATTAATTT GTTCATGATG ACACCTGAAA CCAAATATGT  | 360  |
| 15 | CACAAACCAA ACCGCTAAAT GCCTCTGTTT AATAAACAGT ATGATTGTGA CGATAATGGA  | 420  |
|    | AATCAACACG ACACCTTTGA CATCTCCAAT TTCCGCACTA AACGTCATAT AGTAATTAAA  | 480  |
|    | CAAATTGTTA ACATACTGAC GTTGTGGCTC ACCGAAATAA TCTGTAAACC ATGTTAATGA  | 540  |
| 20 | TCCCATATCT ATATTTTAA GCCATTCTTG ATTTGTCACT ACACGTGAAA ACATACCTAT   | 600  |
|    | AAATACAATC AGCGCGATTA AAAATAAAGG CACTGTcATT TTCGGTGATG TTAATTTTTT  | 660  |
| 25 | ATCTATCATC TTACAATCTC CTCGTATCAT CATTTTCATT TTACAAATGT TATCCATAAT  | 720  |
|    | ATCAATGTGC CACAAATTC ACTTTACCGA CAATATCAAA ATTATAAAGT TCATATTGTT   | 780  |
|    | ATGTATATTG CAAATAAAAC ATTGTATAAT TGAAATAACA ATATTTTGCT ATTTTCAATT  | 840  |
| 30 | TAGTACGATT TATATTTATT ATACAGAGGG GGTAAGGCGT ATCAATAGAG TTATTTTGT   | 900  |
|    | CTATATAGCG TTAATCATTa CATTAGTTAG ATTCTTTACC CCTATTCATC CATCATTTTC  | 960  |
|    | AAATTTGATT TACTGGATAT TTGTATTATA TTTTATTCCT ATTATACTAT GCGTTATCGG  | 1020 |
| 35 | TTTCAAGGCC GAAAACTTA TTGCAACAAT GGTCATTATA CCTAATTTTT TAGGAATACT   | 1080 |
|    | TTATCGATTA TATGCCTACG TCACACATAT ACTCTTTATG TAAAAGGATA GTGGGCATGT  | 1140 |
|    | CTCGCAACAA ATATGCTTGC GTCGACTTGT CACCATTTCGC AAATTTTATG ACATACGCCT | 1200 |
| 40 | TTCACGGGCT ATATTCAGAC CCACGCATTC ATCCACGTAA TAAACACATC ATGTAATAGA  | 1260 |
|    | AAAACAGCAC ACCCAAATAT ATGGCGTTGC GCTGTTTAAC CAAGCATACT TCTATAGCTT  | 1320 |
| 45 | TAATAAGCCA GCAGAAGCAT ACCTAACCTT CTTAAATATG CTTTTCCAAA TTATCCTCAA  | 1380 |
|    | GTTTGAATAC GATAATACGT TCACCTGTAA CTGTACTTAA ATCACTATGG AAGCTCATCA  | 1440 |
|    | CTTTGATACC TGTAATTTTA AAAATGATAT CATTCAAATC TTGCTCACCC GATTCAACTA  | 1500 |
| 50 | ATTCAGAACG TGTTTCGTTTA ATATTTAATA ATCCTTCATT CGTACTACAT ACACGATATT | 1560 |
|    | CAGCTGGCGT TAAGATACCT TGTAAACTAA TAATCACCAT ATCTCTTAAA ATGTCTGATT  | 1620 |

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|    |   |      |
|----|---|------|
|    | TTTCAGCTTC GATTTACCT TTCGTTCTTT TCATATCACT AACTCCAATA ATATTAAAT   | 1740 |
|    | TGATTACTTC ATCTTTGTAT CGTTATCAG ACATCAACTA TTACATTAAG TTTATCATTT  | 1800 |
| 5  | TTAGTATATT TTAAGAAGCT AGAACATTGT AGATATGATG ATATATTAGT TACTTAGCAT | 1860 |
|    | CGCAACATAT CATCGTTAA TCCAACTTTT AAAACGCCCT TCCTCATTA CGCTCATTA    | 1920 |
|    | ACGCAGCCAA TGATTAGACA CCTTCCTAGC GAAATGCTCA TTATTCGCGA GTAGTCTTGC | 1980 |
| 10 | TACAACATAG TCGGGTGCCT GAATAACGAC AAGTAAACGA ATTGGCGAAT GATACATCGT | 2040 |
|    | CCGATCAGCA GCCATAACAG ATTGCCATGA TAAGCCATAC ATCAGATCAC TCGCATTACC | 2100 |
|    | TTGCATGACA CCAACACCTG ACGTGACGGT TTGTGTCGCT TTATTCACAC TTCCGTAATA | 2160 |
| 15 | ATGCGGCGCA ACTGTCGACG CATAATATTG TAAATTAATC CATTGTGCCA CAAGTGCCGG | 2220 |
|    | ACCAGAAATG ATGGTATTTA ATAATGTGCC ATCTTTATCT TTACGCCAAT CATAATTGTG | 2280 |
| 20 | TAAAAATGTC CGCCCTTCTA AATCAATGCC TTTTGTTAAT TGGCGTCGTC CAATTATAAA | 2340 |
|    | TGATGCATTT TTAGCCAATC CCCATTCTGG ACGTACCTCA CTCCAATCAC TCGCAAACCG | 2400 |
|    | CTGCGCTTCT TCCACTGGAT GATTCACAG ACCAATCGTT GGCAGTTTGT CCAAACGTTT  | 2460 |
| 25 | GCGATTCGCG TGTTCAGAAA TCATCGGCAT CGCGTCATTC AATGATTCAT ATGCATCTAA | 2520 |
|    | AGCAATAGAA GATAATGTGT CTGGCACATA TACCCATGCC AACGTATCAG TAGACGTATG | 2580 |
|    | ATGTTCTGCT ACCGCAAAAA CAGTTGTCTC TGGAATATAC ACACCTGATT GTTTTAATCC | 2640 |
| 30 | TTGTCTGACA TTTGGACGAT TACATATCAT CGCTAATAAC TTAGCATTA AACCCTTGA   | 2700 |
|    | TGCGCCACCA CAAGCCCCAC ATTCAAGTGA TGCATGATGT GGATTATTGT GAGAATGACT | 2760 |
| 35 | AGCATGACCT GCTAACACAA CGAACGGCGC AAATGCTTCG GTTAAATCCA TCAATTTCAA | 2820 |
|    | CGCTTGTAAC GCGAAATCAA TTTGCTCTTG CTCAGTAAAT CCAACAGGTA AGTCTGATGT | 2880 |
|    | TCGGTCAAAC TCACGATCAA TCGTCAACTT TGTTCAGGC TTTTCAACC ACTTTTGT     | 2940 |
| 40 | TATTTTTTGT AAAGACGCGC GACTTTTTCT AGGCATAATC GAATTGACAA TGGTACTTAA | 3000 |
|    | GCTTAAAAAT GGCCCACTTA ATTCAGGCAA TAACAGACTA GGCATGACAT TATTTTTCAT | 3060 |
|    | CAATTTAAAT GTGTAAAACA TCGATGACAT TGTCTGTTGC TGTGTGCGAT AAACATTAT  | 3120 |
| 45 | ATCGTAGCGG TCTGCAAATT CTTAATGCG ATATGCCGGC GGTACCATGA CAGGTAATGA  | 3180 |
|    | ATCATGTTTG AATTGTTTGT CTACGGCATC TTTTGAATA GGTAATCCAA AGAAGCCTGC  | 3240 |
|    | AATACCAATC GTTTCAAAGG GCCCTGCTGC TTCGATATGT CTACGAAATG GTTCTGAACG | 3300 |
| 50 | AACATCTATA CAAAATGCAA TTTGCGCTT CGTTGATGTG CCCATCTGAT TTAGCTCGCT  | 3360 |

|    |            |             |             |            |            |             |      |
|----|------------|-------------|-------------|------------|------------|-------------|------|
|    | TGCTTTAATT | TTTTGTTTTA  | ACTGAGATTC  | GTATGTCATT | TCCCAGGCAA | TTAGCCATAA  | 3540 |
|    | ATTTTTAAAT | ACATTTTTAT  | TCATAGTTGC  | TGCAAAATGA | ATAAACGTTT | GAATTTTCATT | 3600 |
| 5  | GACGTCATGT | TGTAGTAATA  | CATCGCTAGG  | CATATCACTG | TAGTAACACC | ATGATGCAAC  | 3660 |
|    | AGTTTGCTTA | AACCAATTTT  | CCGATCTACT  | TTCACAATCT | TTAGCGACTG | ACTTAAACTC  | 3720 |
|    | ATCACCAACT | AGCAATTGTT  | CGACAATAA   | CCGAATTGCC | AAATAATCCG | TTAACAAAATG | 3780 |
| 10 | TTGTTCAAAG | TGATGCTGTT  | GTGAACGGTA  | ATACAACATA | CCTGCCCAAC | CCGGTAACGC  | 3840 |
|    | CAAAAGATGT | CCTTCAACAT  | AAGCTTG GTA | GTCTTCCTGA | TCTATTGAAA | AATGAGTTAA  | 3900 |
| 15 | TACTGACTCT | ATCGTCATTT  | CAGGATCATT  | GGGTAAGCCT | TTAATCACTT | GGCGCTGTGC  | 3960 |
|    | TTTAGTAAAA | CTATGGTCAT  | GTTGCGCTAA  | ATGCAACCAT | GCATGGTAAA | AAC TTGcTC  | 4020 |
|    | ACGCTTCGGC | ATTGTCCAAC  | TCGATAGAAA  | TTGATCGATA | TAAAGTTTCG | TCCATTTAAT  | 4080 |
| 20 | CATTTGACGA | TTCACTTGTT  | CGCTAAGTGG  | CTCACCTTGT | TCATCTATTA | TTGCATCACT  | 4140 |
|    | CATCGGACGT | ACATCATAGT  | GATGATATGA  | TTCAGCCATA | TCACGTTTTG | ATTTTTCTAA  | 4200 |
|    | TAGTAGATCA | GCAACAACAT  | CAACATTTGA  | ATGATTCATA | TATGATGCAG | GTACGTCTTT  | 4260 |
| 25 | TAATGTTTTA | ATGTTATCAA  | TATAAAGATT  | GATGTAGTGT | TGCGGGATAT | TGTAGTGATG  | 4320 |
|    | TTCAAGTAAC | ATATCAGTAA  | CAAGTTGATT  | AAAGACACTT | TCATCTAATT | CACCACGTGC  | 4380 |
| 30 | CACAGCGCTT | TCTATTAATG  | CTTTATTTGG  | GAAAATATCC | ACATCTCGAA | CATCACGTAA  | 4440 |
|    | CCATTTTGCG | ACATCTTCAA  | ACGTATCCGC  | TTCTAATCCT | TCCCATGGAT | TTCGTGCTGC  | 4500 |
|    | AAAAATCGAA | ATTGGTGATA  | ATGGTGTAAT  | AACACGTTTC | GCATTTTCAA | TGACTGAATT  | 4560 |
| 35 | GATATTTAAC | TGTGTTGTCA  | TACCTTTCAC  | CTCCTATAAA | TACTTCTTCA | AATAATTCGG  | 4620 |
|    | ATGACTTTCT | ATCGCTTTTCG | AGCGTGCTTC  | ACCTAGATTA | ACTAACCACA | CGTACAATAC  | 4680 |
|    | CGCAAAAGCC | TTAGAGTATC  | GATGCCGCGC  | CACCCAAATA | CTTAATAAAC | TGCCAAAGAT  | 4740 |
| 40 | TAAAATAACA | ACACTAATGA  | TGACACTCAC  | TGTAGGCGGC | GTTGTCGCAT | GTGTTGTTAT  | 4800 |
|    | ATTTTGTAAT | ACAGCGTAAA  | AATAATTATG  | TGTGATGACG | TAGATAAATG | TCACGATTGC  | 4860 |
|    | AATCAAAATC | ATACCAACAA  | GACGTGCCAT  | GCGTCCTTTA | CTAAAGGCTA | CCATTTGATT  | 4920 |
| 45 | CCAAGATACA | AGTAATGACC  | ATCCTAGAAT  | GAGTGCACTT | AACACTTCAT | ATGCACTTCT  | 4980 |
|    | GTCACTACTC | ATCCAAAATA  | GAAATGCCAC  | GATAATAGCT | AATACACGTC | CCATGACAAT  | 5040 |
| 50 | CCAGCCATAA | GCGTCTTTAG  | CAGATGCTTG  | TTTTGGAATA | TTGAATCGCT | TCACGATAGA  | 5100 |
|    | ACCTGATTGT | AAAAATAATG  | TTGCTTTAAA  | AATACCGTGC | AATATTAAAT | GAATAATCGC  | 5160 |
|    | TGCTGAATAT | ACACCCAATG  | CACATTGAAC  | TAACATAAAG | CCCATTTGAC | TCATCGTAGA  | 5220 |

|    |  |      |
|----|--|------|
|    | AGAAATACTA GAAAGGATAA GTAATAATGA TAACGCAAAT CCATTATCAA ATATCGGCGC  | 5340 |
|    | AAAACGAGTT AGAATAACAC CACCTGCATT CACAATTCCT GCATGCATAA TTGCCGATAC  | 5400 |
| 5  | TGGCGTTGGT GCCGTTACAG ATTCAATCAA CCATCGATGA AAAGGAAATT GTGCTGCCGG  | 5460 |
|    | TATCATGACA GCTAATACAA GTAGTACATT CGTCAACAAT GACCATGTCTG GATGAACTAT | 5520 |
|    | ATGTTGTGGT ACCCGCCACT CGCCAGTCGC AATATAAATA GTTACAATTG CTCCAACGAA  | 5580 |
| 10 | TGCAAGCCAA CCACATAAAA ATGTCATGCT TGATAATTTT GCAGACTCAC GTGGCACTTT  | 5640 |
|    | CCAAAAACGA TTAACGTTCA TCAGCAATGT TAAACATAAT AATGTAATAC CCCAGCAGAG  | 5700 |
|    | TGCCATCAGT CTTAAGTCTT CAGACATCCA TGCTAAAGAT GCAAACGACG TAATCGCAGT  | 5760 |
| 15 | GAACAATGGA AAGTAATGTC TATAATGATG ATCACCTAGT AAATATCGCA TTGAAACTT   | 5820 |
|    | TTGAATAATA AAGCCAAGCG CCATTACAAA GCCAGCTAAT AACCAAGATA AACGATCTAT  | 5880 |
|    | TTTAAATGGA CCTAAGACAT GTTGACCATG AATACCGAAA AAGCCAATGA CTGCAAATAA  | 5940 |
| 20 | TACTGGCATG ACTAGTATGT ATAAATGTAA TTTAATATAT CTCATTGGCA TAACTGGTGC  | 6000 |
|    | TAAAAACAAC AAGCCACTTA TCAATGCAAT GATAAGCGCA ATAACAAACA GTGAAAATAG  | 6060 |
| 25 | CAATTGAAAA CTTAACACTG CATAACCTCC TTATTTCTAA TCTCTCGCAT AATTGCTTAT  | 6120 |
|    | GTATAAAAAAT AAAAACCTAC AATAGTAGAT TCTGTACATA ATGGCAGAAA ATTTACTATT | 6180 |
|    | GCAGGTTTCA GTTTAACTAG AACTGTCATC ACGGTACGTT GATATACCTT GTTGCACTGT  | 6240 |
| 30 | TCTCTTTAAG CGTGCTCCCA TGCACATATG TATATAAAT GTTACTTCTG TCTGTTCAAT   | 6300 |
|    | TCATCTTCAT AAATATGCTT TGCCTAGACG AGACCTAAG TGTTATTCGT TTTAACTTA    | 6360 |
| 35 | TAACATAAAA TATAATTAAA TTTCTGCTTC ATGTCAAATT CATGAGCTTA ACCTCTATTA  | 6420 |
|    | AACCAATGAT TGTAAGATT TTGTAAATGC ACCTGTACAG TTAGGCAGTA TTTCCCGTCC   | 6480 |
|    | TTTTAAAATA AAAAATTCGC AGTTATGATC ATAACAATTC AAGTTAGGAA AAAAATCAAT  | 6540 |
| 40 | TACGCACAAG ATAACATATGT ACAATGAAGT TAACTCATAA GCAAAGGAGG TAATCTTAAT | 6600 |
|    | GGGTATCATC GCTGGCATCA TTAAAGTTAT CAAAAGCTTA ATCGAACAAT TCACTGGTAA  | 6660 |
|    | ATAAGATTTC ATAACAAACA AAGGAGGTCT TTCACATGGG TATCATTGCA GGAATCATTA  | 6720 |
| 45 | AATTCATTAA AGGATTAATT GAGAAATTCA CTGGTAAGTA AGTTATAAAA ATCTCATAGA  | 6780 |
|    | TATGAACATC TTATTTGAAG GGGGCCATTC ACATGGAATT CGTAGCAAAA TTATTCAAAT  | 6840 |
|    | TCTTTAAGA TTTACTTGGT AAATTTTTAG GTAACAATA ATCTCAAACA TTAACGATCA    | 6900 |
| 50 | ACAACATCAT ACTATGTTAA ATCAACATAC AGGAGGACAA AACGATGGCT ATTGTAGGTA  | 6960 |

|    |  |      |
|----|--|------|
|    | TTATTGATGT GAGGTGAGTC TTGTTAGTTT GTTGCAAATA AATGGTCTTG GTGTTTTTTG  | 7140 |
|    | TATAGGACGT TCTTAGTGGG ACATACGGAA TATTCGTGAT CTTTGTAGTC TGACGCGTTA  | 7200 |
| 5  | TATTTTTGTG GCGTGTTTTA TGTTTGATAC TCGAGTTCTG AGACATTCAT GATTTGGCAT  | 7260 |
|    | GCGAAATCTT AATGATTTTC ATGATCTAGC GCAAGATATA TTGGCCACGT GCGGAATTGC  | 7320 |
| 10 | GTTGCACGTT TAGACTGAAA CACTCGTGTG ACCGTAAGTG TTAATAGTAC ATTGATAGCT  | 7380 |
|    | GCATTTACTT CACTCATTTT TATGACTGTT AAACAATGAT TGTACCTTCA ATTAACAGTT  | 7440 |
|    | GGTACGATGG TTTTGCCATT TTTCATCAAC GTAAATATAA AAAGGACTAA GACACATACA  | 7500 |
| 15 | TGTCCTAGCC CTATGGATAA AATGCAAATT TCTGCTTTAT CAAAACATC ACACTTTAGA   | 7560 |
|    | TAGATTGAAA ACAAAAAGAT CCTAAGAACA CCTTAACTTT TTATTAATTG TCATAAATTG  | 7620 |
|    | CAAACAATTA AGCCACAATT CAAAAATGAT TATACTTCAT TCAACTTATC GTGCTGGTCT  | 7680 |
| 20 | AATTTGCCAT TGATATGGAT CTTCAAATTG TTGCCAATCT GCATCAATTT CTTGCGCATT  | 7740 |
|    | GACTAAGCAT GCGTCGAGTT CTTTTGTTAA TTTTCTTCA TCTAATTCTG TACCAATAAT   | 7800 |
|    | GACAAATTGT GTATGACGAT CGCCATATTC TGGATCCCAT TCAGCTGCGA CATCTTGACG  | 7860 |
| 25 | TTCTGCTAAT ATTTGTGTTT GTTGCCTTC AGACATACTA GCCACCCAAT ATGTAACCTG   | 7920 |
|    | ATGAATATTG CAAGATGACC CTGCTTGAGA TAATAAACAT GCTACGTGAT TGTATTGTGC  | 7980 |
| 30 | TAGCCATACG ATACCTTTTG ATCGAACGAC ATTATTTGGC ATGCTTTCTA ACCAATCATT  | 8040 |
|    | GAACCTTTTA GCATGGAAAG GTAGACGACG TTTATATACA AACGATGATA TACCATATTC  | 8100 |
|    | TTCTGTTTCA GGTGTATGCG ATGCATGCCC ACCAGACTCA AGTTCTTTGA TCCATCCTGC  | 8160 |
| 35 | TGACTCGCTC GCTTTTTTCAA AATCAAAACG CTGCGTATTC AAGACTTCTT TTAAATCTAC | 8220 |
|    | TTCAGAATTT GTTGTCTTAA TAATTTTAGC AGTCGGTTGC AATGCGCTTA ACATTTTTTC  | 8280 |
|    | TAACCTCGCT AGTTCTTCTT CACTAATTAA ATCAATTTTA TTAATAATCA ATACATCACA  | 8340 |
| 40 | AAATTCAACT TGGTCAATTA ATAAATCAGC AATCGAACGC TCATCTGTTT CGTCAACGCT  | 8400 |
|    | TTGATCACGA TCCATCAATA AATCTTCTGA GTTGATGTCA TGTACGAAGC GGTTAGCATC  | 8460 |
| 45 | CACAACTGTA ACCATTGTAT CTAAACGGCA AATCGCTGTA AGATCAATGC CAAGTTCATC  | 8520 |
|    | ATCAATATAT GAGAAAGTTT GTGCAACAGG TACTGGCTCT GAAATCCCTG TTGACTCAAT  | 8580 |
|    | AACAATTTGA TCGATGCCAC CTTTTTTCAC TAAACGCTCA ACTTCTTTTA ATAAATCGTC  | 8640 |
| 50 | TCTAAGTGTA CAACAGATAC AACCATTAGA AAGTTCGACT AATTTTTCAT CTGTACGCGA  | 8700 |
|    | TAGTCCCCCA CCATCTGCGA CAAGATCTTT ATCGATATTT ACTTCACTCA TATCATTTAC  | 8760 |
| 55 | AATTACCGCG ATACGTCGAC CTTCTCGATT TTGTAAATA TGATTTAACA ACGTTGTCTT   | 8820 |

ACTTCAATTT ATTTGTAAAT AGGAATAATT CTGTTTTACA TTATATAGGA GCGTTTCCTC 8940  
 TTTGCAATC TTCGATAATA AAAAAATAGT ATACTTAATT AAATTATTGA GCGCTTTACT 9000  
 5 TTATAATGGA GACAAAGATA TATCTCACGA AAGAGAATCG AGGTGTATAA ACATGTTATT 9060  
 TGTCAATTTTA GTTTTATATG TTAGTGGTAT TGCATTTATT CTACTCAGTG TTTTGGTTC 9120  
 AAAGACTGAA GGATTATCTA CGAAACATAC TTTATATACC ATTGGCAGTG CTATTATAAC 9180  
 10 GATTGCTATT TTCATTTCAA TTGGCTATGC CATTCAATAC TTAAGTGCAG CGCTTTATGG 9240  
 TTTGTAAGGT GAAGGTGATG AGTAACGGGT AGTTCGGGAG AGGTAACTT GCGTTGATTT 9300  
 15 TGATAAAGTG ATCATAGCTT TTAGTACTTG AGGATTTTTTA TTGTTGCTGT TACGAATGTG 9360  
 GTCATGTTTA ATGCGGGACA GTAATTTAAG TTGTTTTTTT ACAATTGAGA GTGTGATATT 9420  
 TCGATTCGGT TCGAATTACT TTACATGGGA ATAATATAAA TTA AAAAGAA GCGGCCTAGT 9480  
 20 CTCAGTTGTG AATATACTGA ACATTGGTCG CTTTATTTAG TAGTATGATA TG TAGTTTAG 9540  
 CTATTAATTT TTTTCAGGTC ATCCTTAATG CTGTCTATCT CAGACATGGC ACTTTTAACC 9600  
 CAATCTCCTT GAGCTGCACC TTTAAAATTA GCTTTAAAAG ctTCGCAATG TTGCGCCATT 9660  
 25 TGTTCAATTA ATACTTTTTT TTCACCTTTT AATCCGTTTT CAATATCTTT GTATTTATGC 9720  
 TTATGTTTCA GTGCAATAAC TGTGCGAATA TTTTCTTTTT GCGCTTCCAT TTTAGATATG 9780  
 30 AGATTAAGTG TTTCTACTGT AGTACTTATA TCTGGCATT C TTAAGGTCAT ATCTGGTTCT 9840  
 ATTAGAGTCA TTTAATCTCC TCCAAATTAT CAGTCACTTA GCTTATCTAA CTGCTTTTCA 9900  
 TAAGACTTTT TTAAGTCTTC TTTATATTCT TCTAATTTCC CATTCTTGCT TTCTGA 9956

(2) INFORMATION FOR SEQ ID NO: 353:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 2411 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 353:

TTTCTTTTAA CAGaTTTATC cCATTAATTG TTCTACAAGC CCACGaTGAG CAATATCATT 60  
 TTTAGCAACC ATTAATAAAC CAGAAGTATC CATATCTATA CGGTGAACAA TACCTGGACG 120  
 50 AATTTCTCCA TTAATACCTG ACAAATTTTT AATTGATAC ATTAAACCAT TAACTAATGT 180  
 ATTGGTATAA TGCCCTGGTG ATGGATGAAC TACCATGCCT TTCGGTTTAT ATACAACTGC 240

|    |             |            |            |             |            |             |      |
|----|-------------|------------|------------|-------------|------------|-------------|------|
|    | AACAACCTTTA | TCGTTTGCAA | CGACTAAACC | TGCTTTAATC  | CAATCTTGTA | TCTGGTTACG  | 420  |
|    | AGACCAATCA  | TTATTTAATT | CAGGCAGCAA | CTTATCTACA  | CGCATACCTG | TTTGTTCTTT  | 480  |
| 5  | ATCTGTAATG  | TTAAATTCAT | AAGTCTCCAT | TACTTAACCT  | CCTTCTCCTT | TTTATTGGAA  | 540  |
|    | GTATCCTTTA  | ATAAGGCAAT | AATAATTAAT | ATTACACCAA  | TTGTTAAACT | TGAATCTGCG  | 600  |
| 10 | ATATTAAATA  | TTGGAAAATC | ATAACCAAAA | ATATTTGTAT  | CAATAAAGTC | AACAACCTCT  | 660  |
|    | CCTGTTAAAA  | TTCTATCAAT | AAAGTTTCCA | AGTGCACCTG  | CAAAAAGTAA | ACTAATAGCA  | 720  |
|    | ACTTGCATAA  | ACAAATTATA | TTGAGCATCT | TTAATAAAGA  | AATATACTAA | GGCTATTAAT  | 780  |
| 15 | ATAATAATGG  | TAATAATAAA | GAAAAATGTC | ATTTTTCCAC  | TCAATATTCC | CCATGcAGCA  | 840  |
|    | CCATTATTTT  | GATGTGatGT | TATGTTTAAA | AAGTGC GGTA | TCACCTCAAA | TGAATCTCCA  | 900  |
|    | ATTTTCATTG  | TAGTAGCTAT | AATATATTTA | GTAACCTGGT  | CAAATATAAC | GACAAAATACT | 960  |
| 20 | GCTATTAAAA  | TGGAAGTGCC | AATAAAATAT | TTTTTG TGCA | TTTTCGTTCC | TCCAATCAAT  | 1020 |
|    | CGTCCATGAG  | ACAACTCTTT | ATATTATAGC | TTACACCTGC  | TAATAAAAAA | AGTAAGCATA  | 1080 |
| 25 | TTACATTAAA  | TCTAATGTTA | CTAACTCAAT | ACTTGATAAA  | CTACTATGTT | TTGACATTAA  | 1140 |
|    | ATATGAACTT  | AATTATTCAT | TTATCATATT | TAAGATGACA  | TTAAAAATTA | GGAAAGCAGG  | 1200 |
|    | CTGGAACATA  | AATCCCTAAA | AAGACAGTAG | TAAGATATTT  | TCTAATTAAA | AATTATCTTA  | 1260 |
| 30 | CTGCTGTTCT  | CTATTTATAC | AATACTTCGT | ATTGAATGGC  | TTGCTATGTC | CCATCTGGCA  | 1320 |
|    | CATTACTGTA  | AAATTCTATA | AATAGAATTT | TTGATGATGG  | GTCCCTTCCT | AGGGTGCCGT  | 1380 |
|    | CTCAGCCTCG  | GtCTTCGACT | GGCACTGCTC | CCTCAGGAGT  | CTCGCCATTA | ATACTACGTA  | 1440 |
| 35 | TTAACATGTA  | ATTTTACTTT | TAAATACTTT | AAAAAATAA   | GACATGAATC | GTCTACACTT  | 1500 |
|    | AATTGGACAA  | ATTCTATGAG | AATAGATATT | GTTAATTTAA  | GAAAGTAGGC | TATTTTGAGT  | 1560 |
|    | TtCACTCGAA  | TGTCAGTTCT | AGGAATAAAT | AAAGTTAAAC  | GAGAGCTAGG | TTTTGTATTA  | 1620 |
| 40 | ATGGCAATTA  | ATATAAGGAA | AATAGCAGCT | CAACGAGCTG  | TACATTATAA | AATACATATC  | 1680 |
|    | AAAAAAGCTG  | ATTTCTATCA | AATAATTAAT | AGAAATCAGC  | TTTTTTACAT | TGCCTAAGAA  | 1740 |
| 45 | CTTAATGTCC  | CAAGCCCTAA | AACCTGTTGT | TATTTATTTG  | ATTTAGCAGC | GATACGTTTA  | 1800 |
|    | TATCTTAAGT  | ACATAAATGC | TAAAAGTATA | AACCAAATCG  | GAATAAAATA | AATTGCACGT  | 1860 |
|    | CTTGATCAA   | CATTAATAAA | TAATAACCCG | AACACAAAAA  | TGAAGAATAC | AAATATTAAG  | 1920 |
| 50 | TAGCCCATAT  | ATTTGCCACC | TAATAGTTTG | TACGTAGCAT  | TTTTATGTAG | ATCTGGGTTT  | 1980 |
|    | TTACGACTAT  | AATTGATATA | TGCAATGATA | ATCAGACCCC  | ATACAACATA | AAATAACACT  | 2040 |
| 55 | GTAGAGATGG  | TAGTCACATA | CGTAAATACT | TTTGTCGCAT  | CTGGGAAAAT | ATAGTTTAGT  | 2100 |

TTATTCGTCT TAGAAAAGTT CGGAGGTGCT TGTyGTTGAC TTGATAAACC GaAAAAGCATA 2220  
 CGGCTATTTG AGAATATACC ACTGTTACAT GATGAAGCAG CAGCGGTTAA TACTACAAAA 2280  
 5 TTAATCAAGC CCGCAGCAAA CGGAATTCCG ATCAATGCGA ATrATTTTnC GAATGGACTG 2340  
 TTATCAGGAT CAACTTGCTG CCAAGGGGTA ATAGACATGA TAACCGCTAA CGCCCCAACG 2400  
 TTnnATATTA A 2411

10 (2) INFORMATION FOR SEQ ID NO: 354:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 605 base pairs  
 (B) TYPE: nucleic acid  
 15 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 354:

GnGAATTATT TTTAATAATG AAAGGATTAC TnCATGGGT TTTTACTAGG AntACCCAGA 60  
 AGGTCAAAAT ATTTTGTATG CGCTAAGTCA ATATGAAGTT AAGCGACGCG GCGATATGGA 120  
 25 AGAGGATCCA TCATATAAAC AACTCATTTC TTATTGTTTA CTTGAAAATG AGCATGGCGA 180  
 GATATTAGTG TATGAACGAT TATCTGGCGG TGGAGAAGCT CGATTGCATG GACAATCTTC 240  
 AATAGGTGTA GGCGGTCATA TGAATGATGT TCCAGGAGCA GAATCTATTA ACGAAGTATT 300  
 30 GAGAGTTAAT GCACAGAGAG AATTAGAAGA AGAAGTAGGT TTAAGTGAGC AAGATTCA 360  
 AAATATGGAA TATATCGGTT TTATTAATGA CGATAATAAT GAAGTGGGCA AGGTACATAT 420  
 TGGTGTTGTA TTTAAATCA CTGTAAGTAC GAATGATGTA GAAGCTAAAG AAACAGATAC 480  
 35 TTTACGAATA AAATGGGTTG AAAAAGGCAA CATAGAGTCA TATGATGATT TCGAAACGTG 540  
 GAGTGCATTA ATCCTTCAAG ATTTATAATC AAACGAGGTG ACATATATGT CAGATATTAT 600  
 40 TCCAG 605

(2) INFORMATION FOR SEQ ID NO: 355:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 668 base pairs  
 45 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 355:

TTAAACGAAC TAGGATTTAA 60

ACAATTAGAC ACTGAACATT TAGCTGATTT AAATCCAGAG CGTATGATCA TTATGACAGA 180  
 TCATGCTAAA AAAGATTCTG CTGAATTCAA GAAGTTACAA GAAGATGCAA CATGGAAAAA 240  
 5 GTTGAATGCA GTTAAAAATA ATCGCGTGGA TATTGTTGAC CGTGATGTTT GGGCAAGATC 300  
 TCGTGGCTTA ATTTCTTCTG AAGAAATGGC TAAAGAACTT GTTGAATTAT CAAAAAAGA 360  
 ACAAAGTAA GGTGGAAGTA AATGGCTATA AAAGAAATAA GTAGCCAATC TGCCATAGAT 420  
 10 CATAAAGAA AAAGACGCAC AACACTCACG TATATAGTGA GTTTGTGCTT TCTTTTATT 480  
 TGTATATATT TAAATATGGC GATTGGTTCT TCGAAAATTA ATTTTAGCGA TATCATTCAC 540  
 15 TATGTTACTG GTCATACAGA TACGAAAGCA ACGTTTTTAT TGCATAATGT ACGTATGCCA 600  
 AGGATGATTG CAGGGTTATT TATTGGCGGT GCATTAGCGG TATCTGGTTT GTTAATGCAA 660  
 GCAATGAC 668

(2) INFORMATION FOR SEQ ID NO: 356:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 787 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 356:

30 ATACAAAAAA ACATATCGAA AATAAAGCTA AAAGAACTA TCAAGTTCCA TATTCAATTA 60  
 ATTTAAATGG TACATCTACA AACATTTTAT CGAATCTTTC ATTTTCAAAT AAACCTTGGA 120  
 35 CAAATTACAA AAATTTAACT AGTCAAATAA AATCAGTACT GAAGCATGAT AGAGGTATTA 180  
 GTGAACAAGA TTTAAATAT GCTAAGAAAG CTTATTATAC TGTTTATTTT AAAAATGGTG 240  
 GTAAAAGAAT CTTACAGTTG AATTCAAAAA ATTACACAGC AACTTAGTT CATGCGAAAG 300  
 40 ATGTTAAGAG AATTGAAATT ACTGTTAAAA CAGGAAGTAA AGCGAAAGCA GACAGATATG 360  
 TACCATACAC AATTGCAGTA AATGGCACAT CAACACCAAT TTTATCAAAA CTTAAAATTT 420  
 CGAATAAACA ATTAATTAGT TACAAATATT TAAATGACAA AGTGAAATCT GTATTAAAAA 480  
 45 GTGAAAGAGG CATCAGTGAT CTTGACTTAA AATTTGCGAA ACAAGCAAAA TATACAGTAT 540  
 ATTTCAAAAA TGGAAAGAAA CAAGTAGTGA ATTTAAAATC AGACATCTTT ACACCTAATT 600  
 TATTTAGTGC CAAAGATATT AAAAAGATTG ATATTGATGT AAAACAATAC ACTAAATCAA 660  
 50 AAAAAAATAA ATAAATCTAA TAATGTGAAA TTCCCAGTAA CAATAAATAA ATTTGAAAAC 720  
 ATAGTTTCAA ATGAATTTGT GTTCTATAAT GCAAGCAAAA TTACmATTAA TGaTTTAAGT 780

## (2) INFORMATION FOR SEQ ID NO: 357:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 534 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 357:

AAAGTAAAAA TAAATCTCCC TTTTAACTT TCGTTTCTGC CATAGCCATT GCTTCTTCTG 60  
 TGATAGTTGC TACAATATCT TTTCTTTCAC GGTAAAAATG TTCAACTTGT TCTGCTAAAA 120  
 ATGCAGCTTC TTCTTCGACG TCAGTCATCA ACAATTGCGa AGCTAATGAT GCGTCATCTA 180  
 AACGACCTAC AGCATTAACT CTAGGTCCAA TAATAAAACC AATTGTTTCT TCATCAATAT 240  
 TGTCAATTGTA TCCCGCTTCT TTTAGCAATG CTTTAACAGA GGTCGGACAT TGATCATTTA 300  
 AGACTTTTAA TCCTTGTTTC ACTAATGATC GATTTTTCATC AGTTAAGGAT ACTAAATCCG 360  
 CAATGGTACC TATCGCAACT AATGCTTTAA AATAATCAGG TACATTTTCA ATCAATGCTT 420  
 GTGCTAATTT GTATGCAACA CCTGCACCAC ACAATTGTTG GAACGGATAA TTAACGATG 480  
 GATGCATTGG ATGTACGATT GCATATGCTT CTGGTAATGT ACTACCAATT TCAT 534

## (2) INFORMATION FOR SEQ ID NO: 358:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 3621 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 358:

GGTGAGTCAA ATTAAATGAA TCTAATAAGT CATAACTATC TATTTGTAAT GTGCAACGCT 60  
 TAACGCATAT ACAAATGAA TGTGCTGATA ATGATTTACT CAAATTAAAA GGTGATTTT 120  
 ATTCAATGAT GAATGAAAGT TGCCTTTTTA TTTTGGTAA AAGTTAATGC GTCAGTGAAT 180  
 TGTGTAAGTT TTTCAAAAAG TAAAAAGAAA TAATAAAGGT GAATTATTAG AATTCCAA 240  
 ATAATTCATT ACATTCATAA AGCATTTTAC AAATGGTAAG AAAATGAGTG TTACAAATCT 300  
 AAATATTGCA AAAGAAGCTG ATTTAGTCAC AAAAAATGTC CTATGTAATA ATTCGAGAAA 360  
 GATGCACTAT ATACGGTCTT CTTACTATTC AAATGTAAAA GTTGCTTATT TCGGTGGCTT 420  
 TAATATATCT TGTAGAGAAC AATGAAATGA 480

|    |            |                |            |            |            |            |      |
|----|------------|----------------|------------|------------|------------|------------|------|
|    | ATAGCAA    | ACT GTATTACTTT | GATACAAAA  | TGGTTGTAAT | AAATATTTAT | CGATATGACG | 600  |
|    | ACTTGAATAT | GATAAAGTGA     | CATATTTATG | TATATGACTA | TTTCGCAAAA | TGTAATCGAG | 660  |
| 5  | GTAGAATTT  | CTTGACAATTC    | TGTCAGTTTA | TAAGATGTTA | TAAATATGTA | GTGTATAAGG | 720  |
|    | AGGCAAACAA | GATGACTGAA     | GAATTCAATG | AATCAATGAT | TAACGATATT | AAAGAAGGTG | 780  |
| 10 | ACAAAGTCAC | TGGCGAGGTA     | CAACAAGTTG | AAGACAAGCA | AGTTGTTGTT | CATATCAACG | 840  |
|    | GTGGTAAATT | TAATGGGATT     | ATTCCTATTA | GTCAACTATC | TACGCATCAT | ATTGATAGCC | 900  |
|    | CAAGTGAAGT | TGTAAAAGAG     | GGCGACGAAG | TTGAAGCATA | TGTCACTAAA | GTTGAGTTTG | 960  |
| 15 | ATGAAGAAAA | TGAAACTGGA     | GCTTACATCT | TATCTAGAAG | ACAACTTGAA | ACTGAGAAGT | 1020 |
|    | CTTATAGTTA | TTTACAAGAA     | AAATTAGATA | ATAATGAAAT | CATCGAAGCG | AAAGTAACAG | 1080 |
|    | AAGTAGTTAA | AGGTGGTTTG     | GTTGTTGATG | TAGGACAAAG | AGGTTTTGTT | CCGGCTTCAC | 1140 |
| 20 | TAATTTCAAC | AGACTTCATT     | GAGGATTTCT | CTGTGTTTGA | TGGACAAACA | ATTCGTATTA | 1200 |
|    | AAGTTGAAGA | ATTGGATCCT     | GAAAATAATA | GAGTCATTTT | AAGCCGTAAA | GCAGTTGAAC | 1260 |
|    | AAGAAGAAAA | CGATGCTAAA     | AAAGATCAAT | TATTACAATC | TTTAAATGAA | GGCGATGTTA | 1320 |
| 25 | TTGATGGTAA | AGTAGCGCGT     | TTAACTCAAT | TTGGTGCAAT | TATAGACATT | GGCGGTGTTG | 1380 |
|    | ATGGTTTAGT | GCATGTATCT     | GAACCTTCTC | ACGAACATGT | TCAAACACCA | GAAGAAGTAG | 1440 |
| 30 | TTTCAATTGG | TCAAGATGTT     | AAAGTTAAAA | TTAAATCTAT | TGATAGAGAT | ACAGAACGTA | 1500 |
|    | TTTCATTATC | AATCAAAGAT     | ACGTTACCAA | CACCTTTCGA | AAATATTAAA | GGTCAATTCC | 1560 |
|    | ACGAAAATGA | TGTCATTGAA     | GGTGTCGTAG | TAAGATTGGC | AAACTTTGGT | GCATTTGTTG | 1620 |
| 35 | AAATTGCACC | AGGTGTACAA     | GGACTTGTAC | ATATTTCTGA | AATTGCACAC | AAACACATTG | 1680 |
|    | GTACGCCAGG | TGAAGTGTTA     | GAACCTGGTC | AACAAGTAAA | TGTTAAAATA | TTAGGTATTG | 1740 |
|    | ATGAAGAGAA | TGAAAGAGTA     | TCACTATCTA | TTAAAGCAAC | ATTACCAAAC | GAAGATGTTG | 1800 |
| 40 | TTGAAAGTGA | TCCTTCTACG     | ACTAAGGCGT | ACTTAGAAAA | CGAAGAAGAA | GATAATCCAA | 1860 |
|    | CAATTGGCGA | TATGATTGGT     | GATAAACTTA | AAAATCTTAA | ACTATAATTT | AATATTTAAT | 1920 |
|    | AGTCAACTCC | ACATGTTTAT     | GATTGcATGT | GGAGTATTTT | TATGTAACAA | AATATACTCG | 1980 |
| 45 | GAATGATAAC | GTGGgACAAA     | TtTAACTAAG | TGTTTAAAAA | GATArAGTTT | TAAGTGctGa | 2040 |
|    | tTTTTATCAT | TACAGTAATA     | AACTCATTTT | GAATACACAG | TCTCATGTGA | TATTATTAAA | 2100 |
| 50 | AAGATATaAG | AAAGAGAGGA     | AGTTAGCTTA | TGACTAAACC | TATAGTAGCT | ATTGTAGGTA | 2160 |
|    | GGCCTAATGT | AGGTAAATCT     | ACAATTTTTA | ATAGAATAGT | TGGAGAACGT | GTTTCGATTG | 2220 |
|    | TGGAAGACAC | GCCAGGTGTA     | ACACGAGATC | GTATTTATTC | TTCAGGTGAA | TGGTTAACAC | 2280 |

AAATTAGAGC GCAGGCAGAA ATCGCCATAG ATGAAGCGGA TGTTATTATT TTTATGGTTA 2400  
 ACGTGCGTGA AGGATTGACA CAAAGCGATG AAATGGTCGC TCAAATTTTA TACAAATCTA 2460  
 5 AAAAACCAGT CGTATTAGCG GTTAACAAAG TAGATAATAT GGAAATGCGT ACAGACGTGT 2520  
 ATGATTTCTA TTCATTAGGA TTTGGTGAAC CGTATCCGAT ATCAGGGTCA CATGGTTTATG 2580  
 GTCTTGGTGA CTTGTTAGAT GCAGTTGTTT CTCATTTTGG TGAAGAGGAA GAAGATCCTT 2640  
 10 ATGATGAAGA TACAATTCGA CTATCCATTA TTGGACGACC AAACGTAGGT AAATCAAGTT 2700  
 TAGTAAATGC TATTTTAGGT GAAGATCGCG TTATCGTTTC TAATGTTGCA GGGACAACGA 2760  
 GAGACGCTAT TGATACAGAG TATAGTTATG ATGGACAAGA TTATGTTTTA ATCGATACTG 2820  
 15 CTGGTATGCG TAAAAAAGGA AAAGTATATG AATCAACTGA GAAATATTCA GTATTAAGAG 2880  
 CTTTAAAAGC GATTGAACGT TCAAATGTTG TTTTAGTGGT CATAGATGCA GAACAAGGCA 2940  
 20 TCATTGAACA AGATAAACGT GTTGCAGGAT ATGCACATGA ACAAGGTAAA GCAGTCGTGA 3000  
 TTGTCGTAAA TAAATGGGAT ACTGTGGAAG AAGATAGTAA AACGATGAAG AAATTTGAAG 3060  
 ATGAAGTACG TAAAGAATTC CaATTTTATG ATTATGCACA AATTGCTTTT GTGTCTGCTA 3120  
 25 AAGAACGCAC AAGATTACGT ACATTATTCC CTTACATCAA TGAAGCAAGT GAAAACCAT 3180  
 AAAAACGTGT TCAAAGTTCA ACTTTAAATG AAGTTGTTAC TGATGCAATT TCCATGAACC 3240  
 CTACACCAAC AGACAAAGGT AGACGTTTGA ATGTCTTTTA TGCAACACAA GTTGCTATAG 3300  
 30 AACCACCGAC ATTTGTTGTA TTTGTTAATG ATGTAGAATT AATGCATTTT TCTTATAAAC 3360  
 GCTATTTAGA GAATCAAATC CGTGCCGCTT TTGGTTTGA AGkTACACCA ATTCATATTA 3420  
 TAGCTCGAAA GAGAAATTAA CGATTGGGGG ATAACAATGA CTAAAATTAC CGTTTTTGGT 3480  
 35 ATGGGAAGTT TTGGGACAGC CCTTGCCAAT GTTCTTGCAG AAAATGGACA TGATGTTTTG 3540  
 ATGTGGGGTA AAAATCAAGA TGCTGTTGAT GAATTAAATA CATGTCATAC AAATAAAAAG 3600  
 40 TATTTAAAAT ACGCGAAATT A 3621

(2) INFORMATION FOR SEQ ID NO: 359:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 643 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 359:

... GCGTATGTTG GCGGCAATTA CCAAGGGAAC TAnTGGCACC

AATGCTCTT TCATCTCCAT GCCCTGTTGC TCATTATTAA TAACACGGTC TATTAACACA 180  
 ATGGCATTG TACTACGAT TCCAATTAAC ATTAGCATAC CAATTAACT TGGTACTGAT 240  
 5 ATTGTTTCTC CTGTGATTAA TAGTGCAATA ATTACACCGA TAACTGTAAA TGGTAAAGAG 300  
 AATAAAATTG TAAATGGTGC TAGGCCACCT TTAAATGTAA TAACTAGGAT TAAATATACG 360  
 ATAATGATTG CAGCTAACAT TGCAAAGGCT AATTGTGTCA TTGCATTGTT AATATCATCT 420  
 10 GATGCACCAC CGATATTAAC CTTTACATTA TTCGGTTTAT CCAAATTATT TATTTTAGAG 480  
 ATCACTTGTC GTGTTGTGCC ACCCACATCT TTATTTGTTA CTTTAGCAGA TACCGTCGTT 540  
 15 GCATAATCTC CTTGTTCTTG CGTCAATTTA CTTGGTGTG TGTGTTTAAAC TAACGTAGCG 600  
 ATATCTCCCA ATTTAATCGT ACCACCAGTC GGCTTTTTCA AAG 643

## (2) INFORMATION FOR SEQ ID NO: 360:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2524 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 360:

TTTCAGGCyG TGCAAGGGCT TTTTCTTTTG CTTTAAAGAT TATGATTTAT CGTGCAAAGT 60  
 30 TAAGTGGTCG TATATAGTTT TAGTTTTAAA AAGGTAATTA AATAAAATAG TTTGCCGAGG 120  
 GAGATGTCAA AATGATTAAA ATACCTAGAG GGACGCAGGA TATTTTACCT GAAGATTCAA 180  
 35 AGAAATGGCG TTACATTGAA AATCAATTAG ATGAATTAAT GACATTTTAT AATTATAAAG 240  
 AAATAAGAAC ACCAATTTTT GAAAGTACAG ATCTTTTTGC AAGAGGTGTT GGTGATTCAA 300  
 CCGATGTCGT ACAAAAAGAA ATGTATACAT TTAAAGATAA AGGCGATAGA AGTATTACAT 360  
 40 TAAGACCTGA GGGAACAGCT GCAGTTGTGC GTTCATATAT TGAACATAAA ATGCAAGGTA 420  
 ATCCAAACCA ACCAATTAAA CTTTATTACA ATGGACCGAT GTTTAGATAT GAACGTAAGC 480  
 AAAAAGGACG CTATCGTCAA TTTAATCAAT TTGGTGTAGA AGCTATTGGT GCTGAAAATC 540  
 45 CTAGCGTAGA TGCAGAAGTA TTAGCTATGG TTATGCATAT TTATCAATCA TTTGGATTAA 600  
 AACATTTAAA GCTTGTTATT AATAGTGTAG GGGATATGGC GTCTCGAAAA GAATATAACG 660  
 AAGCGTTAGT GAaACACTTT GAACCAGTAA TTCATGAATT TTGTTGAGAT TGTCAATCAC 720  
 50 GTTTGCATAC AAATCCGATG CGAATTTTGG ATTGTAAAGT AGACCGTGAT AAAGAAGCGA 780  
 TTAAGACTGC ACCTAGAATC ACTGATTTCT TAAATGAGGA ATCTAAGGCA TATTATGAAC 840

|    |  |      |
|----|--|------|
|    | GTGGATTGGA TTATTATACA CATAACAGCAT TTGAATTAAT GATGGATAAC CCTAACTATG | 960  |
|    | ATGGTGcCAT TACAACGCTT TGTGGTGGTG GCCGTTATAA TGGTTTATTA GAATTGCTAG  | 1020 |
| 5  | ATGGTCCAAG TGAAACAGGT ATTGGTTTTG CGCTAAGTAT AGAACGATTA TTGCTTGCAC  | 1080 |
|    | TTGAAGAAGA AGGTATCGAA TTAGATATTG AAGAAAACCT AGATTATTTC ATTGTTACAA  | 1140 |
|    | TGGGTGATCA AGCAGATCGA TATGCTGTGA AGCTATTAAA TCATTTGAGA CATAATGGTA  | 1200 |
| 10 | TTAAAGCAGA TAAAGACTAT TTACAGCGTA AAATTAAAGG ACAAATGAAA CAAGCAGACC  | 1260 |
|    | GTTTAGGTGC CAAGTTTACA ATCGTTATTG GTGATCAAGA ATTAGAAAAT AATAAAATCG  | 1320 |
|    | ATGTTAAAAA TATGACAACT GGTGAATCTG AAACAATTGA ATTAGACGCA TTAGTCGAAT  | 1380 |
| 15 | ATTTTAAGAA GTAGAGAGGG CGTTAAATA TGAGTAAGAG AACAACTTAT TGTGGATTAG   | 1440 |
|    | TTACTGAGGC ATTTTtagGA CAAGAAATTA CATTAAAAGG ATGGGTAAAC AATCGTCGTG  | 1500 |
| 20 | ACCTTGGTGG ATtGATTTtC GTTGATTtAA GAGATAGAGA AGGAATTGTA CmAGTCGTGT  | 1560 |
|    | TTAATCCTGC ATTTTCAGAA GAGGCaTTGA AAATTGCTGA AACAGTACGT TCTGAATATG  | 1620 |
|    | TTGTAGAAGT TCAAGGTACA GTTACGAAGC GTGACCcTGA AACAGTTAAT CCTAAAATTA  | 1680 |
| 25 | AAACTGGCCA AGTTGAAGTA CAAGTTACAA ATATTAAAGT GATTAAATAA TCTGAGACAC  | 1740 |
|    | CACCATTTTC TATAAATGAA GAAAATGTTA ACGTTGATGA AAATATTCTGA TTAAAATACC | 1800 |
|    | GTTATTTAGA TTTACGTCGT CAAGAGTTAG CGCAAACATT TAAAATGAGA CATCAAATTA  | 1860 |
| 30 | CACGTTCTAT TCGTCAATAT TTGGATGATG AAGGGTTCTT TGACATCGAA ACACCAGTAC  | 1920 |
|    | TAACGAAGTC AACACCTGAG GGTGCACGTG ACTATTTAGT ACCATCTCGT GTTCATGATG  | 1980 |
|    | GTGAATTTTA TGCATTACCA CAATCACCAC AATTATTTAA GCAATTATTG ATGATTAGTG  | 2040 |
| 35 | GATTTGACAA ATACTACCAA ATCGTAAAT GCTTCCGTGA CGAAGATTTA CGTGCAGATC   | 2100 |
|    | GTCAACCTGA ATTTACACAA GTCGATATTG AAATGAGTTT TGTAGACCAA GAAGATGTGA  | 2160 |
| 40 | TGCAAATGGG TGAAGAAATG CTTAAAAAAG TTGTAAAGA AGTTAAAGGC GTTGAAATTA   | 2220 |
|    | ATGGCGCTTT CCCACGCATG ACATATAAAG AAGCGATGCG TCGCTATGGT TCTGATAAAC  | 2280 |
|    | CAGATACAG TTTTGAAATG GAATTAATTG ACGTTTCTCA ATTAGGACGT GATATGGACT   | 2340 |
| 45 | TTAAAGTATT TAAAGATACT GTTGAAAATG ATGGTGAAAT TAAAGCAATT GTCGCTAAAG  | 2400 |
|    | GTGCAGCTGa ACAATATACT CGTAAAGaTA tGGGaTGCTT TAACAGAATT TGTaAACaTC  | 2460 |
|    | ymTGGtGCTA AgGtTAGCGT GGGGTAAAG TTGTGGGAAG GTGGTTTTGA CAAGGTCCCA   | 2520 |
| 50 | ATGG   | 2524 |

(A) LENGTH: 1507 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 361:

|    |   |      |
|----|---|------|
| 10 | TCGTTGAGTA AAAGTCCAGA AAATTGGATG AGTAAACTTG ATGATGGAAA ACATTTAACT | 60   |
|    | GAGATTAATA TACCGGGTTC ACATGATAGT GGCTCATTCA CTTTAAAGGA TCCAGTAAAA | 120  |
|    | TCAGTTTGGG CAAAGACTCA AGATAAAGAT TACCTTACCC AAATGAAGTC GGGAGTCAGG | 180  |
| 15 | TTTTTTGATA TTAGAGGTAG AGCAAGTGCT GATAATATGA TTTCAGTTCA TCACGGCATG | 240  |
|    | GTTTATTTGC ATCATGAATT AGGAAAATTT CTCGATGATG CTAAATATTA CTTGAGTGCT | 300  |
|    | TATCCAAACG AAACAATTGT GATGTCTATG AAAAAGGACT ACGATAGCGA TTCTAAAGTT | 360  |
| 20 | ACGAAGACAT TTGAAGAAaT TTTTAGAGAA TATTATTATA ATAACCCGCA ATATCAGAAT | 420  |
|    | CTTTTTtACA CAGGAAGTAA TGCGAATCCT ACTTTAAAAG AAACGAAAGG TAAAATTGTC | 480  |
| 25 | CTATTCAATA GAATGGGGGG TACGTACATA AAAAGTGGTT ATGGTGCTGA CACGTCAGGT | 540  |
|    | ATTCAATGGG CAGACAATGC GACATTTGAA ACGAAAATTA ATAATGGTAG CTTAAATTTA | 600  |
|    | AAAGTACAAG ATGAGTATAA AGATTACTAT GATAAAAAAG TTGAAGCTGT TAAAAATTTA | 660  |
| 30 | TTGGCTAAAG CTAAAACGGA TAGTAACAAA GACAATGTAT ATGTGAATTT CTTGAGTGTA | 720  |
|    | GCGTCTGGAG GCAGCGCATT TAATAGTACT TATAACTATG CATCACATAT AAATCCTGAA | 780  |
|    | ATTGCAAAAA CGATTAAAGC AAATGGGAAA GCTAGAACGG GTTGGCTGAT TGTGACTAT  | 840  |
| 35 | GCAGGATATA CGTGGCCTGG ATATGATGaT ATCGTAAGTG AAATTATAGA TAGTAATAAA | 900  |
|    | TAAGGATTCA ATAATGATAT TAAGACGAGT ATGAAAATAG TTAGATTCTA ATTATTTTCA | 960  |
| 40 | CTACTCGTTT TTATTTTGAA AATAAGTAAT AATTCAACAA TATTATAAAT TGAACAGATT | 1020 |
|    | GTTTGTGAAA TTTTGTGATA TATTAAAGTG AAAAAGTGTT ATAAATTGAT AAATATATGT | 1080 |
|    | AATTAACAAA AACAAATCAT TTTAAAAAGA AGAGAGTTGT AAGATGATGa AACGATTAAA | 1140 |
| 45 | CAAATTAGTG TTAGGCATTA TTTTCTGTT TTTAGTCATT AGTATCACTG CTGGTTGTGG  | 1200 |
|    | CATAGGTAAA GAAGCGGAAG TTAAGAAAAG CTTTGAAAAA ACATTGAGTA TGTACCCTAT | 1260 |
|    | TAAAAATCTA GAGGATTTAT ACGATAAGGA AGGCTATCGT GATGATCAGT TTGATAAAAA | 1320 |
| 50 | TGATAAAGGT ACATGGATTA TAAATTCTGA AATGGTTATT CAACCTAATA ATGAAGATAT | 1380 |
|    | GGTAGCTAAA GGCATGGTTC TATATATGAA TAGAAATACC AAAACAACAA ATGGTTACTA | 1440 |
| 55 | mTATGTCGAT GTGACTAAGG ACGAGGATGA AGGAAAACCG CACGACAATG AAAAAAGATA | 1500 |

## (2) INFORMATION FOR SEQ ID NO: 362:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1216 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 362:

|    |  |      |
|----|--|------|
|    | TACATGTTTC GGATGCTACT TTATTTAGTT TGAAGGGTGC ATTATGGACG TTAGCGCAAG  | 60   |
| 15 | AAGTTTATCA AGAATGGTAT TTAGGATCGA AGTTGTATGA AGATGTTGAA AAGAAAATAG  | 120  |
|    | CACGAAC TAC TTTAAGACA GGTATATTTT ATCAAGAAAT TATTTTGAGA CCAGTAGATG  | 180  |
|    | AAGTTAAGGT ACTTCTGAAT GATTTAAAAG GTGCTGGTTT CGAATTAGGT ATTGCAACAG  | 240  |
| 20 | GTCGTCCTTA TACTGAGACT GTTGTGCCAT TTGAAAATTT AGGATTGTTA CCATATTTTG  | 300  |
|    | AAGCTGATTT TATTGCAACA GCAAGTGATG TTTTAGAAGC AGAGAATATG TATCCGCAAG  | 360  |
|    | CACGACCATT AGGAAAGCCG AATCCTTTTA GTTATATCGC AGCTTTATAT GGTAATAATC  | 420  |
| 25 | GCGATAAATA TGAATCTTAT ATCAATAAGC AAGATAACAT TGTAAATAAA GATGACGTAT  | 480  |
|    | TTATAGTAGG CGATTCTGTTA GCTGACTTAT TAAGTGCTCA AAAAATAGGT GCAACGTTTA | 540  |
|    | TTGGAACATT AACAGGTTTA AAAGGTAAGG ATGCTGCAGG TGAGTTAGAA GCGCATCATG  | 600  |
| 30 | CCGACTATGT TATTAATCAT TTAGGTGAAC TTAGAGGTGT ACTAGATAAT TTGTAATTTG  | 660  |
|    | ATTGTTGTTT GACAGCATAA CTTGTAGTGA ATGATTGAAC CAAAGGTTTC ATATTGAGTT  | 720  |
| 35 | ACAATGAAAT TAATAATGAA AAAATGCCAA GAAGCAATGG AAGTAATCCA ATGTCTTCTT  | 780  |
|    | GGCATTTTGA ATTTACATAA ATTGTTTATG ACTGTACCGT CAATTCAGTT GTGAAAATTT  | 840  |
|    | GATTGTATT CACCAACTTGT TTAAGTTCAT CAATTATATT GTTTGAAACA GGTGATCAA   | 900  |
| 40 | CGGATAAAAT CATTAGCGCA TCTCCGCCCG CTTCAGTTCT ACCTAAAGTC ATAGATGCAA  | 960  |
|    | TGTTGATATT GTATTTACCT AACAATGCGC CAGTTTTTCC TACCATACCT GGAGTATCAT  | 1020 |
|    | TATGATATGA CACAATTTGA TATTGATTTG GCTTTAAGTC TACAGAAAAA TTATTAATTC  | 1080 |
| 45 | TAACAATTCT TGGACCGAAA CCTGTAAAGA CAGAAGCGCC AACTTTAACG GAATCGCnAT  | 1140 |
|    | CGnTTGATAG TTCTACCTCT AAGTAGTTAC TAAAACCTGT CTCTGCTTTA TTATTTTCAA  | 1200 |
| 50 | TATTTAATGT CACTTG  | 1216 |

## (2) INFORMATION FOR SEQ ID NO: 363:

## (i) SEQUENCE CHARACTERISTICS

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 363:

ATCAAAATAT TTAAATAAT ATTGATGGTC ACATTGTAAA TTTAAATAGAA AATAAATTTG 60  
 10 ATCAAAATATT ACAAGAACCA TTAAATCCAT TAAATTATGA TACTGTCAGT GGATTAGCTG 120  
 GGATAGGGAG ATATTTGCTA AATAGAGTAG ATGAGAAATGA ATTTAATGTT AAAGCATTAA 180  
 AAAGCATATT AGTATACTTT AAAGATATTC AATATTCTAA AAATAGCTGG GTAGTCCCAC 240  
 15 AAGArAGTCA ATTTTGTAGAG TCTGATAAAA ATTATTTTAC TGAAGGTAAT ATCAATCTTG 300  
 GCCTTGCACA TGGaGTGCTA GGACCGATGT CTTTATTTGC ATTATGCGTG ATTAAAGGAA 360  
 TTACGATTGA AAATCATCAG CACATATTAA AAGACATGTA CAAATTTATC ATGGACGAAA 420  
 20 AATTTTGTAA CCACGAAAGA TGGTTGCAGC GTTACGATTT AATTTCTGAA CGTAATCATT 480  
 TCAATTTTAT TCGGAATGGT TGGTGTATG GCAATACGGG TGTAATGACG ACGTTGTTTT 540  
 25 TAATCGGCCA AGCATTACAA GATGATGAAA TAATTAAAAT GTCTAAAAAA GTGATGCTAC 600  
 AAGTAGTAAA TGATAAAGAT GAAAATTTAA TAAGTCCAAC TATTGTCAT GGATTGTCAT 660  
 CACAAATATT AATGTTAACA ATTATGAATT TGAATTTTGA ATTAAATGAA GTGTCTGATT 720  
 30 ATATCACTGT ATTAATAAAT AAAGTGATTT CTCATTATAA GGAAGATTAT CTGGTGAATT 780  
 TTATAGACAT TAATGAAAAT AAGCAAGATG TATTTAAAAG TAGGAAAGTT GGCCTTTTAG 840  
 AAGGTGAATT AGGGGTCATC TAACATT 867

35

(2) INFORMATION FOR SEQ ID NO: 364:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10813 base pairs

(B) TYPE: nucleic acid

40 (C) STRANDEDNESS: double

(D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 364:

TACCTTTTCT TtTAAATCAT TTTATATTTT CCCaCTAATA TCCGcTGtTA ATCaATCctG 60  
 ACATCctTGT ATCaCTATGA CAATTAATTG TTAAATACAT GAATTTCTAC ATTTTATGAA 120  
 50 AAAATCCATT TTTATTACAA TTCAACACTT TATATGACAA CTTCAATTACA GTTACTTTTA 180  
 TTGTTGATTG CTTACATTGT TTTCTAAAAA AAATTTGTTA TCATAATTAA CGTTGAATAA 240  
 AGAAAAAAT TAACCTGGGA GATAAAAAATG GAATATAAAA AGATACTAAT TCGTTTATTA 300

55

|    |   |      |
|----|---|------|
|    | CAATCGCATG CCGCAGTTAA TTATTATAGT AAAAACCAAT GTACATGGTG GGCATTTAAA | 420  |
|    | CGTCGCGCAC AAGTCGGTAA ACCTGTTTCT AATAGATGGG GCAATGCTAA AAATTGGTAT | 480  |
| 5  | TACAATGCAC GTAAATCAAA ATATGCGACT GGTCGTACAC CAAGAAAATT TGCTGTCATG | 540  |
|    | CAATCAACTG CAGGATATTA TGGACATGTC GCAGTTGTTG AACAAGTATA TAAAAACGGT | 600  |
| 10 | AGTATTAAAG TTTCAGAATA CAACTTTTAT CGCCCATTA AATACAATAC ACGTGTAATA  | 660  |
|    | AGCAAAAAGG CAGCACGTAA CTTTAACTAT ATTTACTAAT CAAAAAATT CTATCACGAA  | 720  |
|    | CGCTTCAATT TCCTGTATGC GTGTGATAGA AGTTTTTATT TTATGAAATT ATATTATTAC | 780  |
| 15 | TTCTACAAAT TTCAAATTGC CGTAATTGAA CGTATATTTT TTCTTCAACT ATTATTTTAT | 840  |
|    | CTTTAGCATA ATCTATATAT AAAATTTTAT GCTATTATTT AAATAATTCG CTATAACTTA | 900  |
|    | ACATACGTTT TCGATATAAA CCTTGTTCTA AATCTCAATA ATTTTTTGCT GTTTTCATCG | 960  |
| 20 | TCATTAGTTA AAAAAATAAT TTAAGTGGT TTTTGAGACC TGTTTAAATT GATGACTCAA  | 1020 |
|    | AACCTTTATC CCCTTTTCAC TCGGTTTAAT TGCTTTAATA TTAAACACAG TCTCATTTGA | 1080 |
|    | ATTTTGCTAC TAAGTTTGAA ATATTTGAT TCGAATGTGA ACATCATTTA TTATTACTTT  | 1140 |
| 25 | CGACAGCTAG AAAAATATTG TTAAACCAA ACTATAATTA CCACTTTTAT ATAGAATAT   | 1200 |
|    | ATATAAATTT TAACCTTGAG ACAGAACTGC TAGTCAGGTT TATGAATATA TTTCTTTAGT | 1260 |
|    | TTACTTTGaTA TACTTATTGG TAAATCATT TTTATTGAA GAGCATTTAT AACAAAAAGT  | 1320 |
| 30 | ATAATCCCAG TTATAGCGAT TCCATGACCA TTTTATCAG TCAAAGATTC ATCAACAAAA  | 1380 |
|    | ACTTTTTGAT AAATTTATAT ATTTGTATAA TTTATTATGG TAGATATCTA CACCCGTATC | 1440 |
|    | TATAACAGCT ACAGTTATCA TTGCGTCTTA TCCAAATAGT TTTTAAGAAA TAAATATAAT | 1500 |
| 35 | TCATTAATAT CATGGCTATT TGTAACGTCA GtGCTTaAGA CCTTGTCAT TATTGTTTTA  | 1560 |
|    | TCTGTTTCTA AGAGCCCCTG ATTTTCTGCA TACATATTTT GTATATCGCT GTTAATCTCA | 1620 |
| 40 | TTTAATTTTT TAAATTTTTT TCTAACCTTT TTCAAATAA AATGCTCTTT AATTCCATCT  | 1680 |
|    | CTTAAATACA TATAAATCTC TATTATAATC TCCATAAATG TCATATCTCC TCTCTCAAAA | 1740 |
|    | AACATTATAC TCAATATATT AAAAATAAGA AAGGTTTTTT CAGAATTTTT AGTATTTTCA | 1800 |
| 45 | GATATTTATT CTTAAGTATC TTATTATTAC TTCTTTTTAA CGCTAGTGGa ATAATTAATA | 1860 |
|    | ATAATTGTAT TTAAATGCAA TGCTGTTGTT CTTTCATACT TACAAGCAAG TCATAAGAAA | 1920 |
|    | TGAGAAATTA AATTCTTATA TGATGAATAA ATGATGACTG CAGAAGAAAT TGCTAAAAAA | 1980 |
| 50 | GGAGTGGAGT GAGGCATTCT ACTGTTTATA TTGTTAACAA ATATCAAAAT GATAGGAACT | 2040 |
|    | TTTGAATCCT AAGACTGTTA AAATCGAGAC AAGAAGAAAC TCGTTCCAAA TTTGAATCCT | 2100 |

|    |   |      |
|----|---|------|
|    | AAAACTTCTA TCACGAACGC TTCAATTTCC TGTATGCGTG TGATAGAAGT TTTTATTTTT   | 2220 |
| 5  | GTTTCATATTA ATTTATCTAA GCGCTACGAT GGaCTGACTT AAACCTTTTCT TTAAAATCGC | 2280 |
|    | TATTCGCCAT TTACTATTGT TGTCTAATTT CTGTGAAAAT ATGTTCCGCT GCTTGTGTAT   | 2340 |
|    | TTGCACGGGG TTCTTTTTTC AAAGCTTCAG CTACTTTAGC AATTTTCATCA CCTTTTGCCC  | 2400 |
| 10 | CTACAACGAT AGCTAATGAT TTATATTGTA AACTCATATG ACCTTGTGTA ATACCTTCTG   | 2460 |
|    | ACACAAGCGC GCGACATGCT GCAAAGTTTT GCGCTAAACC AACGGCAGCA ACTACATGAC   | 2520 |
|    | CTAATTCTTG TGCTGACTCT ACATTTAGTA GCTCTAATGA AGCTTTAGCA ATTGGTAATA   | 2580 |
| 15 | CTTTTGTACC ACCGCCAACG ATTGCCAATG TCATAGGCAC TTCAATTGTA CCAATCAATC   | 2640 |
|    | GTTGACGATC TTGATCGTAA CGCCATGTAG CAATACCACG ATACTGTCCG TCACGACTCG   | 2700 |
|    | CGTATGCATG CGCACTTGCT TCTGCACCAC GCGTATCATT TCCTGTTGCT AAAACAACAG   | 2760 |
| 20 | CATGTATGCC ATTCATAACA CCTTTATTAT GTGTTGCTGC ACGATGAATA TCTACTTGGG   | 2820 |
|    | CCAATACAGA AGCACGTTCC ATTCGTTTGG CAACCTCTTC TCCAGTTCTC TCGCCCCTTG   | 2880 |
|    | CTAAATCTTT AACATCAATT TCGCCTTGAA CTTTAAACAAC GGACGCTGTT GCATGATTGG  | 2940 |
| 25 | ATAAAATACT CATTAATAATG TCGCTTTGCG GAAATTCATT TTTTAAAAAT GCAGTTATGG  | 3000 |
|    | CCTCTAAAAT CGTATTAAGC ATATTAGCGC CCATAGCATC TTTCGTATCA ACAAATACTT   | 3060 |
| 30 | TTAAAGATAG TAACTGTTGC TCAGGAAATG TATCAATCGC TATACGTTGG TAACCACCAC   | 3120 |
|    | CACGCGCTTT AATAGAAGGA TATGCCTCAT CCGCAATTTT ATGAATTTGC TTTTCTAAAG   | 3180 |
|    | CTTTAATGTC TGCTGATAAT TTTTCAGTAT CGTCAACGCC ATCAAAGACG ATTTGACCTA   | 3240 |
| 35 | TCATAATACG TTCAGAAGAT ACCGTTTTAA ATCCGCCAGT CTGATTCACT AGCTTTGCAC   | 3300 |
|    | CATAACTAGC TGCAGCGACA ACTGAAGGCT CTTCCACCAT CATAGGTACA ACATATGCCT   | 3360 |
|    | TATCGTCCAC AATGATATTC GGTAAATAATC CAACGGGTAA TGCACCTTGC GCGATGACAT  | 3420 |
| 40 | TTTCAATTAA ACTATTGGCT ACTTCTTCAT CGATTAATGG ATGATTCACT AAAATGTGCA   | 3480 |
|    | ATTGTTCTTC TGATAACCAT TGCTTATCAA CCAATTGTTG TAACTTTTCT TTACGAGATA   | 3540 |
|    | AATGTGAAA ATTCTTATCT AAATTTTGCA TGGACGTACT CCTTTTACTT CACATAATTT    | 3600 |
| 45 | TTAACATTTT AATCACTACT ATTTTACCA CAAAATAACG TCATTCGTCT TAAAATTCAA    | 3660 |
|    | TTGAATAATT GTCGTTTTGA CTTTAAAAATA AAACAAGGTA AATTAAAACG CTTACAAGAA  | 3720 |
|    | ACGACAAATc ATTTTTAAAT TTAGTATATT TCTTTGTATA AAATTAGCAT ATTCTGATAT   | 3780 |
| 50 | GATACAAGTG TTGCTTTTAT AAATTTGAAA GGATGTAAAA CCTTATGACA ATAGGTATCG   | 3840 |
|    | ATAAAATAAA CTTTTACGTT CCAAAGTACT ATGTAGACAT GGCTAAATTA GCAGAAGCAC   | 3900 |

|    |  |      |
|----|--|------|
|    | CTGTAAACCA AGACATCGTT TCAATGGGCG CTAACGCTGC TAAGGACATT ATAACAGACG  | 4020 |
|    | AAGACAAAAA GAAAATTGGT ATGGTAATTG TGGCAACTGA ATCAGCAGTT GATGCTGCTA  | 4080 |
| 5  | AAGCAGCCGC TGTTCAAATT CACAACTTAT TAGGTATTCA ACCTTTTGCA CGCTGCTTTG  | 4140 |
|    | AAATGAAAGA AGCTTGTTAT GCTGCAACAC CAGCAATTCA ATTAGCTAAA GATTATTTAG  | 4200 |
| 10 | CAACTAGACC GAATGAAAAA GTATTAGTTA TTGCTACAGA TACAGCACGT TATGGATTGA  | 4260 |
|    | ATTCAGGCGG CGAGCCAACA CAAGGTGcTG GCGCAGTTGC GATGGTTATT GCACATAATC  | 4320 |
|    | CAAGCATTTT GGCATTAAAT GAAGATGCTG TTGCTTACAC TGAAGACGTT TATGATTTCT  | 4380 |
| 15 | GGCGTCCAAC TGGACATAAA TATCCATTAG TTGATGGTGC ATTATCTAAA GATGCTTATA  | 4440 |
|    | TCCGCTCATT CCAACAAAGC TGGAAATGAAT ACGCAAAACG TCAAGGTAAG TCGCTAGCTG | 4500 |
|    | ACTTCGCATC TCTATGCTTC CATGTTCCAT TTACAAAAAT GGGTAAAAAG GCATTAGAGT  | 4560 |
| 20 | CAATCATTGA TAACGCTGAT GAAACAAC TC AAGAGCGTTT ACGTTCAGGA TATGAAGATG | 4620 |
|    | CTGTAGATTA TAACCGTTAT GTCGGTAATA TTTATACTGG ATCATTATAT TTAAGCCTAA  | 4680 |
|    | TATCATTACT TGAAATCGA GATTTACAAG CTGGTGAAAC AATCGGTTTA TTCAGTTATG   | 4740 |
| 25 | GCTCAGGTTT AGTTGGTGAA TTTTATAGTG CGACATTAGT TGAAGGCTAC AAAGATCATT  | 4800 |
|    | TAGATCAAGC TGCACATAAA GCATTATTAA ATAACCGTAC TGAAGTATCT GTTGATGCAT  | 4860 |
|    | ATGAAACATT CTTCAAACGT TTTGATGACG TTGAATTTGA CGAAGAACAA GATGCTGTTC  | 4920 |
| 30 | ATGAAGATCG TCATATTTTC TACTTATCAA ATATTGAAAA TAACGTTTCGT GAATATCACA | 4980 |
|    | GACCAGAGTA GTCGGTGTAT TTAAAACACA TATAATAAAA CCTAAAAGCA GCAGTAAGAC  | 5040 |
| 35 | CACTTCTAAT TGAAATCGTC TTAGTGCTGT TCTCTATTTA TAACACTTCG TATTGAATGA  | 5100 |
|    | ATTCATTATG CCTATTTGAC ACATTATTGA AGTTTTCCCTA ATGCCTGGAT CCTTTATACG | 5160 |
|    | TTACGGCTTC GTGCTATGTT TTGGTACATA AAGCTTTGAC ATATCGATAT TCTCCTCACTC | 5220 |
| 40 | TAACAGCTTA ATTTTATTAT TAATCGTTCC ACCGAACCCT GTTAAGCTAC CCGTTTTACC  | 5280 |
|    | GACAACACGA TGACATGGCA CGATAATAGA TAATGGATTA CTTCCGACTG CACCTCCAAC  | 5340 |
|    | CGCTTGGGCT GACATTTTTG GCTTGTTAAG CAGCTTGCCT ACTTTTTTGG CAATAGCACC  | 5400 |
| 45 | ATACGTTGTT AGAGTCCCAT AAGGAACCTG TCTTAATTCA TTCCAAACAC ACTGTTGAAA  | 5460 |
|    | ATGACTACCT GTTGGCTTTA AAGGTATTGT GATTTTCAGGA TTGTCACCTT TAAAATACGC | 5520 |
|    | GTCTAACCAC TGTGTCGCCT CTCTAAATAT CGCTAAAGAC GTATTTTCTT CCCTAGTACC  | 5580 |
| 50 | ATCACCTTGT TGATTTTCAA ACAAACAGC GGTCAGACTT ACCCCATCAC TCAAAAGTTC   | 5640 |
|    | CAAGGCGAAT CATAGTAACT CTTATACTCC ATAAAAATTC CCCCTTTTTC             | 5700 |

|    |            |            |             |            |             |             |      |
|----|------------|------------|-------------|------------|-------------|-------------|------|
|    | ATAAGTCGTC | AATTACGTAT | ATAAACACGT  | AATACCAGCT | ATCACTTTGC  | TGCAATATAC  | 5820 |
| 5  | AGTTACATAT | CTTACTACAC | GTGCTAACCT  | CTTACTTTGT | AAACCAAATC  | TTAAATTAAA  | 5880 |
|    | ATATTGAAAA | TGCAATGAAT | CCTTAATATT  | TTATTAAACC | TATAATTACT  | TATTAAAAAT  | 5940 |
|    | AACACACAAT | ATTCATAAAG | TTTTAAAAAT  | ATTCTGTTTT | ATCACCTACT  | ATTAGTGGAA  | 6000 |
| 10 | AAGTACAATT | GCAATTGTAT | ATAGTTTGCA  | TAACGCTTCA | AAAGTAATTT  | CTTTTTTGTT  | 6060 |
|    | TAGTTCAAAA | AAATTTAGAG | GTGATGTTAT  | ATGAATAACG | GTTTTTTC    | TAGCGACTTT  | 6120 |
|    | GATTCAATTT | TTCGAAGAAT | GATGAAAGAT  | ATGCAAGGTT | CAAATCAAGT  | CGGAAACAAA  | 6180 |
| 15 | AAGTACTATA | TTAATGGTAA | AGAAGTTTCA  | CCTGAAGAAC | TAGCGCAACT  | CACACAACAA  | 6240 |
|    | GGTGGCAATC | ACTCTGCTGA | ACAAAGTGCG  | CAAGcTTTT  | AACAAGCAGC  | ACAAAGACAA  | 6300 |
|    | CAAGGGCAAC | AAGGTGGCAA | CGGCAATTAT  | TTAGAACAAA | TTGGTCGTAA  | CCTTACGCAA  | 6360 |
| 20 | GAAGCACGTG | ACGGTTTATT | AGATCCAGTC  | ATTGGTCGTG | ATAAAGAAAT  | TCAAGAAACT  | 6420 |
|    | GCTGAAGTTT | TAAGTAGACG | AACTAAAAAC  | AATCCTATAT | TAGTTGGAGA  | AGCTGGTGTT  | 6480 |
|    | GGTAAACTG  | CGATTGTTGA | AGGTTTAGCA  | CAGGCAATCG | TTGAAGGAAA  | TGTACCAGCA  | 6540 |
| 25 | GCAATCAAAG | ACAAAGAAAT | TATTTCTGTA  | GACATTTTAT | CATTAGAAGC  | TGGAACGCAA  | 6600 |
|    | TATCGTGGTG | CTTTTGAAGA | AAATATTCAA  | AAATTAATCG | AAGGTGTTAA  | ATCTTCACAA  | 6660 |
|    | AATGCCGTAC | TATTCTTTGA | TGAAATCCAT  | CAAATTATCG | G TTCAGGTGC | CACAGGAAGT  | 6720 |
| 30 | GATTCAGGTA | GCAAAGGGTT | ATCTGATATT  | TTGAAACCTG | CATTAAGTCG  | TGGTGAGATT  | 6780 |
|    | TCTATTATTG | GTGCAACAAC | ACAAGATGAA  | TATCGAAACA | ATATTCTTAA  | AGATGCTGCA  | 6840 |
| 35 | TTAACGCGCA | GATTTAATGA | AGTGCTTGTT  | AATGAACCAA | GCGCTAAAGA  | TACTGTTGAA  | 6900 |
|    | ATTTTAAAAG | GTATTCGCGA | AAAATTTCGAA | GAACACCATC | AAGTAAAATT  | ACCAGATGAC  | 6960 |
|    | GTATTAAAAG | CATGTGTTGA | CTTATCAATT  | CAATATATTC | CACAACGATT  | ATTACCAGAT  | 7020 |
| 40 | AAAGCAATCG | ATGTGTTAGA | TATTACAGCA  | GCACATTTAT | CTGCGCAAAG  | TCCAGCTGTC  | 7080 |
|    | GATAAAGTTG | AAACTGAAAA | ACGAATTTCT  | GAATTAGAAA | ATGATAAACG  | TAAAGCAGTA  | 7140 |
|    | AGTGCTGAAG | AATATAAAAA | AGCTGACGAC  | ATTCAAAATG | AAATCAAATC  | ATTACAAGAT  | 7200 |
| 45 | AAATTAGAAA | ATAGTAATGG | TGAACATACT  | GCTGTTGCTA | CAGTTCATGA  | TATTTTCAGAT | 7260 |
|    | ACTATTCAAC | GATTAACTGG | TATTCCAGTT  | TCTCAAATGG | ATGATAACGA  | TATTGAACGT  | 7320 |
|    | TTAAAAATA  | TTTCTAATCG | TTTAAGAAGT  | AAAATCATAG | GTCAAGATCA  | AGCTGTAGAA  | 7380 |
| 50 | ATGGTTTCAC | GTGCAATTCG | CCGTAATCGT  | GCTGGGTTTG | ATGACGGCAA  | CCGTCCAATT  | 7440 |
|    | GGCAGTTTCC | TATTTGTTGG | CCCTACTGGT  | GTTGGTAAAA | CAGAGCTTGC  | TAAACAATTA  | 7500 |

|    |            |             |            |            |            |            |      |
|----|------------|-------------|------------|------------|------------|------------|------|
|    | GACACAACAG | CTGTTTCAAA  | AATGATTGGT | ACAACTGCTG | GTTATGTTGG | TTATGATGAC | 7620 |
|    | AATTCAAATA | CGTTAACTGA  | AAAAGTACGC | CGTAATCCAT | ACTCAGTCAT | TCTATTTGAT | 7680 |
| 5  | GAAATCGAAA | AAGCAAATCC  | ACAAATTTTA | ACATTGTTAT | TACAAGTAAT | GGATGATGGT | 7740 |
|    | AATTTGACTG | ATGGTCAAGG  | TAATGTCATC | AACTTTAAAA | ATACAATTAT | TATTTGTACA | 7800 |
|    | TCAAATGCTG | GCTTTGGCAA  | TGGCAATGAC | GCTGAAGAAA | AAGATATTAT | GCACGAAATG | 7860 |
| 10 | AAAAAATTCT | TCCGCCCTGA  | ATTCCTTAAC | CGCTTCAACG | GCATCGTTGA | ATTCTTACAT | 7920 |
|    | TTAGATAAAG | ATGCATTGCA  | AGATATCGTC | AACTTATTAT | TAGACGATGT | ACAAGTTACA | 7980 |
|    | TTAGACAAAA | AAGGTATTAC  | GATGGACGTT | TCTCAAGATG | CGAAAGATTG | GTTAATTGAA | 8040 |
| 15 | GAAGGCTATG | ATGAAGAATT  | AGGTGCACGT | CCATTAAGAC | GTATTGTTGA | ACAGCAAGTA | 8100 |
|    | CGTGACAAAA | TTACAGATTA  | CTATTTAGAT | CATACAGACG | TTAAACATGT | GGATATAGAT | 8160 |
| 20 | GTTGAGGATA | ACGAATTAGT  | CGTAAAAGGT | AAATAACGAC | ACTTTAACAT | ATCGCGCATC | 8220 |
|    | AAAAATGAGC | ATCAGGTCGC  | CCTTGCCTGT | GCTCATTTTT | TTAATTATTT | CCCTGGAAAA | 8280 |
|    | TGATTCGCTG | TGTGCTGTTT  | TGTTCCACAA | CAATCACGAT | TAATGTCACA | TGTACCACAT | 8340 |
| 25 | TTTCCTTGTT | TTGAACGCTT  | GAAAAATTTT | ACTAGTGTAT | ATAAGGCATA | TCCGAAAATT | 8400 |
|    | GCTAAAAAAA | TTAAAATGTT  | AATAATGACT | GACACTTTAA | CCACTCCTTA | AACAAATAAA | 8460 |
|    | TGTCCGACTT | GATAAAAAAT  | GAATGTTAAG | ACATATGCAG | TGACTAGAGG | ATAGGCAACT | 8520 |
| 30 | GCAAGTGCCG | TCCATTTCCA  | TGAATAAGTC | TCTTTACGGA | TTGCTGCTAC | TGTAGAAACA | 8580 |
|    | CAAGGAATAT | ACAATAGTAT  | AAATATCATA | AATGCATACG | CAGATAGCGG | TGTGAATTGA | 8640 |
|    | TTTTGAATCA | CATTAAACAAG | GCCTGCATCA | CCTGATGAAT | AGATAATCGC | CATCGAACTT | 8700 |
| 35 | ACGATAACTT | CTTTTGCTAA  | AAATCCTGGC | ACTAACGTAG | CACCTGCTTG | CCATGTTCCA | 8760 |
|    | AATCCGAGCG | GTTGCACTAA  | CATACCAAAG | AACTACCAA  | CCATATGTAA | AAAACTTTGA | 8820 |
|    | TTGATATTCA | CATTGATACC  | ATGTGGTCCT | ACATAACTTA | ATAGCCAAAT | GACTACTGAG | 8880 |
| 40 | CCGCCAAAAA | TAAATGTACC  | TGCTTTACGA | ACAAAGCCCT | TAGCCTTTTC | CCAAGTACTA | 8940 |
|    | CGCCACAACG | TTTTAATGGA  | AGGCACACGG | TATGTTGGCA | ATTCCACAAT | AAAGATTGCA | 9000 |
| 45 | TTATCATTTT | TTAAAATCGT  | CTTAGTAAGT | ACTGTACTGA | CTAAAAATGC | CATAATAATA | 9060 |
|    | CCTAAACAT  | ACAGGCTTAA  | TACTACTAAA | GATTGATTCT | CTTTGAAAAA | GATACCTACG | 9120 |
|    | AACAACGCAT | AACTGGCAG   | TCTAGCAGAG | CATGACATGA | ATGGTGCAAT | TAATATCGTT | 9180 |
| 50 | GTTAAACGCT | CTTTTTCATT  | TTCAATACTG | CGCGCAGCCA | TAATACTCGG | TACATTACAA | 9240 |
|    | CTAAATCGGA | TAATCATTGG  | TATAAAAGAC | TTCCCCTTA  | AACCGAACGA | TTCCATAATA | 9300 |

|    |  |       |
|----|--|-------|
|    | AAAAAGAGCA CAACAATTTG TGGTACAAAG ACTAATACTG ATCCTACACC AGCAATAATG  | 9420  |
|    | CCATCTGTAA TTAAATCTTG TAAAAATGGT ATAACACCAA GATAATTCAT AATCGTCTTC  | 9480  |
| 5  | ACACTATCTG TAAATGTACC ACCTATAAAT GCATCGAGTT GATCCGACAA AGGTGTGCCA  | 9540  |
|    | ATCCATGTAA ATGTAGTTTG AAAGATCAAC CACATAATTG CTAGAAAGAT AGGCATCCCT  | 9600  |
|    | ATATATTTAT GTGTTAATAT CTTGTCTATT CTAGAGCTGA AATATTGCTT ATCTTCATCT  | 9660  |
| 10 | GGATACGTTA CCACGTCTTG CAATAACGTC TCAATATAAT GATTGCGTAT ACGCTCCATC  | 9720  |
|    | TCTCGACGAA CAGATACAGC CCCTACTTGT TCAGCAACTT GATCACGTAA ACTCGACAAT  | 9780  |
|    | TTATTTACAA CCTCTGAATT AAGTTCGTTT GCAATTTGCA TGTATTTTAA TAAGAATTGA  | 9840  |
| 15 | ATCGCAATAA ACCTAGCTTG ATACTTATCA TGAGATGTCT CTGTCATTAT TATTTGACAC  | 9900  |
|    | ATATTTTTAA TTGTCTCTTC AATCTTCTCA CCATAATTGA TTTTAAAATG CGGTTGATAC  | 9960  |
| 20 | CCTTCCCCIA GATGCTTTAT TTCGCCAAGT AAATATTTTG TTCCTTTGCC TGTACGTGCC  | 10020 |
|    | ACAACTGGAA AAATAGGTGT TTTTAACTTT TTCATCAATT TATGATAATC GATTTTTATC  | 10080 |
|    | CCGCGCTTTG TAGCTACATC AATCATATTT AATCCGATGT ATATTGGTTG ATTAAGTTCT  | 10140 |
| 25 | AACAATTGTA CTGTTAATTG CATATTTCTT TTTAGTTGAC TCGCATCAAC AATGTTAATG  | 10200 |
|    | ATTCTGAAA ATGAATCGTT TAATAAATAG TCTGTCACTA CAGTTTCATC TTTAGAAATC   | 10260 |
|    | GGCGATAAAT CATATGTACC TGGTAAATCA ATTAATTGTC CTACATTTTC TTTAAGTTTC  | 10320 |
| 30 | CCTACTTTTT TCTCTACCGT TACGCCACTC CAGTTGCCCTA TATATTCATA CGAACCAGTT | 10380 |
|    | AAAGCGTTAA ACAAAGATGT TTTACCAACA TTAGGATTTT CTAAAATACA ATAATTTTCC  | 10440 |
|    | ATTGTCGGG CTCCTATTCT TCTAATGCAA TAGAACAAGC ATCGCAATGT CTAATACTTA   | 10500 |
| 35 | ACTGTTGTCC GTTTACTTCA ATAATACATG GCCCTTTAAA TAAACATTTT TGTTTAATCG  | 10560 |
|    | TTATGATAGC GTCATCTGTT AACCCAAAGG CACTTAGACG ATACAACATA TTCTCATTAG  | 10620 |
| 40 | CAATATCCAT TCGCTTTATT TTATAAGCCT TATTCATTTT ACCATTTTTA ATGTTTAACA  | 10680 |
|    | TACTATTTTG CTCTCCTATT AGAAATAATA ATCATTATCA CTTAAAAATC ATAACCCTTA  | 10740 |
|    | AAATTGTAGC TCGCAATACT TTATTTAAAT AATTTTCATT TTTCATGTAA AATTTGTGAC  | 10800 |
| 45 | ATTGCAAAAA TGT   | 10813 |

(2) INFORMATION FOR SEQ ID NO: 365:

(i) SEQUENCE CHARACTERISTICS:

- |    |                             |
|----|-----------------------------|
|    | (A) LENGTH: 6804 base pairs |
| 50 | (B) TYPE: nucleic acid      |
|    | (C) STRANDEDNESS: double    |
|    | (D) TOPOLOGY: linear        |

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 365:

|    |             |            |             |            |            |            |      |
|----|-------------|------------|-------------|------------|------------|------------|------|
|    | TGATGGATTA  | GCAGACATTT | TACGAGCGAA  | TGGTTTCAA  | GTGTTTGGTC | CAAATAAGCA | 60   |
| 5  | AGCAGCTCAA  | ATCGAAGGCT | CAAAATTATT  | TGCTAAAAAG | ATAATGGAAA | AATATAATAT | 120  |
|    | TCCAAC TGCT | GATTATAAAG | AAGTTGAGCG  | AAAAAAGGAT | GCTTTAACAT | ATATTGAAAA | 180  |
|    | CTGTGAATTG  | CCCGTTGTTG | TCAAGAAAGA  | TGGGTTAGCT | GCTGGGAAAG | GCGTTATTAT | 240  |
| 10 | TGCAGATACT  | ATTGAAGCAG | CCAGAAGTGC  | TATTGAGATT | ATGTATGGTG | ATGAAGAAGA | 300  |
|    | AGGTACTGTT  | GTATTTGAAA | CGTTTTTAGA  | AGGTGAAGAG | TTCTCGCTAA | TGACATTTGT | 360  |
|    | TAATGGTGAT  | TTAGCAGTAC | CTTTCGACTG  | TATTGCACAA | GATCATAAAC | GCGCATTTGA | 420  |
| 15 | TCATGATGAA  | GGACCAAATA | CTGGTGGTAT  | GGGGGCTTAT | TGTCCmgTAC | CACATATTAG | 480  |
|    | TGACGATGTT  | TTAAmACTTA | CAAATGAAAC  | AATTGCACAw | CCCATTGCAA | AGGCAATGCT | 540  |
| 20 | TAATGAAGGT  | TATCAATTCT | TCGGTGTATT  | ATACATTGGT | GCTATTTTAA | CTAAAGATGG | 600  |
|    | TCCAAAAGTA  | ATAGAATTTA | ATGCCCCGTTT | TGGTGATCCT | GAAGCTCAAG | TATTATTAAG | 660  |
|    | TCGCATGGAA  | AGTGATTTAA | TGCAGCATAT  | TATTGATTTA | GATGAAGGAA | AACGTACTGA | 720  |
| 25 | ATTCAAATGG  | AAAAATGAAT | CTATTGTAGG  | GGTCATGTTG | GCATCAAAAG | GATATCCTGA | 780  |
|    | TGCATATGAA  | AAAGGGCATA | AAGTAAGTGG  | CTTTGATTTA | AATGAAAAC  | ATTTTGTAG  | 840  |
|    | TGGATTAAAG  | AAGCAAGGTG | ATACCTTTGT  | TACTTcAGGT | GGTAGAGTTA | TACTTGCCAT | 900  |
| 30 | CGGAAAAGGT  | GACAATGTAC | AAGATGCACA  | GCGAGACGCA | TACAAAAAAG | TATCACAAAT | 960  |
|    | ACAAAGTGAC  | CATTTATTCT | ATCGTCATGA  | CATTGCGAAT | AAAGCACTAC | AACTTAAATA | 1020 |
|    | AGTAAATTTA  | AAATACTAAG | aTTAGCTATG  | AACGAATCTA | TAACGATAGA | TTTTTTCATA | 1080 |
| 35 | GCTTTTTTTAG | TTGTAGAGTC | TAGGACATTG  | ATTTCTGTAC | CAAATTTGTG | ATTATGCATA | 1140 |
|    | TGTAATACAA  | AAGAGGCGCC | ACAACATGTT  | TGGATGAACA | AAATAACATG | TTTGTGGCAC | 1200 |
|    | CTCTTTTGTT  | TAGTATGGAA | TAAATGGTTT  | TCTTTTTCTA | TACAATGAAT | TTCTAATTTA | 1260 |
| 40 | GTATCTATAC  | AATTATGGAT | AAAATTTAAC  | CTACACGACC | AAGACGAACA | TCATCTATGC | 1320 |
|    | CCGTGATGGG  | TAAGGTGATT | GAACAATAAT  | ATGCCATAGT | AATAATGGCA | ATTAAACTA  | 1380 |
| 45 | TAATAAAGAT  | TATATCTTTA | TATGAGAAAG  | GTACGTTGTA | ATAGTAAGTA | CGAGGACCAT | 1440 |
|    | CTCTAAATCC  | TTTCGACTCC | ATCGCAACTG  | ATAATTGATG | TGCCTTTCTA | ATATTTTGGC | 1500 |
|    | TTAATAGAGG  | TATAATTAAA | TGCTTAAATC  | GCTTTAACCC | TCTATAATTT | GCCGCGTCTA | 1560 |
| 50 | TCATCTGATA  | GCGCATTTTT | AAAGATCTGC  | GAAGcTGTA  | TAAAGAACTA | ATCATTAAAG | 1620 |
|    | GTATCATACG  | AATGGCAGCC | ATGAATGCAT  | AAGCAACTTT | TGATTTAAC  | TTTAAATGTT | 1680 |

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|----|--|------|
|    | ATGAAATAGC AATGGTTCTT AATGATACAT GTAAACCACG AACTAAACTT TCTGTTGTAA  | 1800 |
|    | TATGGATAAA TCCGAATTTT AAAATTGTAT GGCTACCATT CCCGTATAAA ATCATGAACA  | 1860 |
| 5  | GGGAAGAGAG TAATGCAAAG CCAATACTTA TAGTTATAAA AATTGCTGTA ATTTTAACT   | 1920 |
|    | GAGTACCATT AAACATCAAT AAGAAAACTA ACATTAAGAT AGTGATATAA AGCATAAAAT  | 1980 |
|    | CGAAATTATG CACAAATATA ATAAAGAAAA ATAGTATAAT TCCAAGAAAT AGTTTCGTTA  | 2040 |
| 10 | TAATGTTGAC ATCATCAACA AATGATTGCC GAACTTTCCA TTGCTCATAC ATTTCGTATCA | 2100 |
|    | CCATCACAAT CTAGTAACGC ACCATCTGAA ATTTTAAGTC TTCTTGATGG ATAACGTTCA  | 2160 |
|    | ATTATTTTCAT CGTCATGTGT AaCCATGACA ATACTTTGTC CCAAATTAAT TCGCTTTTGG | 2220 |
| 15 | AAAAGTTTGA TCAACTGGAA TGTATTATGG CTATCAAGTC CAAATGTCGG TTCATCTAAA  | 2280 |
|    | AAGATAATAT CAGCTTTAGA ACTTAGTGCG GTAgcTACGC TAAGGCGTCG TTTTGTACCA  | 2340 |
| 20 | ATAGACAACT CATAAGGATG TTGATCTTTT ACATTTTGTA AATCTAAAAG TTTTAAAAGT  | 2400 |
|    | TGTATCGTTT CATCATCACT TTGATCTTTA GAAAGGTGAT TAAAATGAAT GTTAATTTCA  | 2460 |
|    | TCATAAACCG AATTTGTTAT AAATTGTAAT TCTGGGTTTT GATAAACTAG GTACATGTGT  | 2520 |
| 25 | TTTGCTGCAT GTTTAATTTT TGTTAAACGC TGATTTTCAA AATAAACATC ACCTTGATAT  | 2580 |
|    | TTAATCAATT GCATAATTGA TTCAAGCAAG GTTGTTTTAC CACTACCATT TGCCCCTGTA  | 2640 |
|    | ATTGTAATCC ACTCACCTAG ACCAATTTCT AAATCTGAGA ATGAGAGCAA TGTTGATTTA  | 2700 |
| 30 | CCGCGAATAA TACGTCCATT TTTAAATTGT AATAAGTGTG AGTTTGTTGT TGGAAAGTCA  | 2760 |
|    | ACACGACTTG GTGCGAATTC CCATGCACGT GGATGCCACA CACCATATTC ACTGAGTAAA  | 2820 |
|    | TGAACATACT TCTGTAATAT GATTTCAGGA CATTTCATCGG CAATGATATT TCCGTTATAA | 2880 |
| 35 | TCCATCAAAA TGACGCGGTC GACATGATTC CAGATGTGTT TAACTTTATG TTCAACGATT  | 2940 |
|    | ACAACCGTTT GATCTTCCCA AAGTTCAATT AGTTTAGTCC ATAAATCTTC TGTGCTTGA   | 3000 |
| 40 | ACATCTAACA TTGCTGTCGG TTCATCTAAA AACAAATGTTT TTGATTGTTG AAGAATGGTT | 3060 |
|    | TCAACAATTG CCAATTTCTG TTTCATCCCG CCACTTAAAT CTTTGATATA CGTTTCAGGG  | 3120 |
|    | GTAACATTTA AATTGACCAT ATTTAAAGCA TTGATAATTA ACGCATCCAT GTCTTCACGT  | 3180 |
| 45 | GGTAATTGTC TATTTTCTAA AACGAATGCA AGTTCTTCGT ATACTTTTGG CATACAAAAC  | 3240 |
|    | TGGCTATCAG GGTCTTGGA AATAACGCCA CTTAATGGGT CAACGATTAG TTCATCATAT   | 3300 |
|    | TTCATAGGTA ATTCAATTAA ATTAGGAACA ATACCACTTA ATACATTCAG AAGTGTACTT  | 3360 |
| 50 | TTACCGCAAC CAGAAGGACC GAGTAAAAGT ACTTTTTCTT TGTCTTGAAT AGTGATATTT  | 3420 |
|    | AAATGATCGA AAATTTTACG TTGACCACTT GGATATTTTA ATCGTAAATC ACTTACTTTT  | 3480 |

|    |  |      |
|----|--|------|
|    | ATTTTGTAC GCCTGTCTTA TCTAAAGCTT TTAATAAAAG GTAAGATAGG ACGCCGGCGA   | 3600 |
|    | CTACTGCACC ACTAATTAAT CTAAATACGA TGAATAATGT TAAGTTCCAA CCTGCAACTT  | 3660 |
| 5  | CATTTAAATA ACCATAGAAA TAATCTATCG GGAAAGCCGC GATTGCTGTA CAAAAACCTG  | 3720 |
|    | CTAACATAGC TACCATAACT GAACGTGATT GATATTTAAA AATTGCAAAG ACAAGTTCAC  | 3780 |
|    | ACGCTAAACC TTGTATAAAA GCGTAAACGA TTGTCGGAAT ATCGAAACGA CCCATAATCA  | 3840 |
| 10 | TAGTTTCGCC GGCACCTGCA GCAAATTCAG CCAAGTAAAGC AATACCTGGT TTTGGAATAA | 3900 |
|    | TTAGATAGCA GACAATCGCT GCCATGAACC AAACCCCGTT TGTTAATTGT TCGAGGTGAA  | 3960 |
|    | GGCCTGTAGC TTGCACACCA TTGTAAACAA ACCACCATAA ATTGTAAATA ACTGCGAATA  | 4020 |
| 15 | CTACTGAAAT AAGTACGGTT ACTAGTATTT CAGATAGCTT TAAACCTTTT GACATTTTTTA | 4080 |
|    | CATCCTCCTA ATAAAAAAC GCACAACCAT CCATAGGAAA GTTATGCGTT CACAATATAT   | 4140 |
|    | ATTAGTAAAA CATATGTATA GTAACACTTT CCTACGCTAG TTCAAGCTAG ATCAGGTTCA  | 4200 |
| 20 | AAGGGTTTGA GGGCAAGCCT CATCTCAGTA TAAACACCCC CTAGTGTGTG CGATTTATTT  | 4260 |
|    | AATTAATTAT ACTGTAAGAC GTTTGTAAAC TTATGTCAAT AGGTTGTCTT CATGAAATTT  | 4320 |
|    | CGTTTAATTC GATTTAAAT TTATAATATT AGCATTGGAT TTAAATTGAA GATGTAGTAG   | 4380 |
| 25 | GAATGTAGT AATTAAAGAT ATAAAAATAT GTGACATGTA ATAATATTGA GCTGATAAAT   | 4440 |
|    | GAAGAGGGAT ACTTATCAAT CATACCTCTT TAACAACAGT GAAGAACCCG TGCATAATGG  | 4500 |
| 30 | CTTACGAATT ATAGTTTATA AGGAAGAAGA GGGATACATG CGCCGAGCAC ATGCATAAAA  | 4560 |
|    | GCCCCTAACA ACTAAAAGTT GTAAGGAAGG AGAGGGATAC ATGCGCCGAG CACATGCATA  | 4620 |
|    | AAATCCCCTA ACAACTAAAA GTTGTAAGGG GATTTAAATT AATTTAGTGT ATCTTGGATA  | 4680 |
| 35 | TCTTGTTTTG KTTGaTTAAT ATCTTCTGTT TTTTCTTCTT TTTTATCTTT TAATTTTTCT  | 4740 |
|    | TCAACTTCTT TAGCTTTTTT TGCTGCTTTT TTATTTTGAT TTTTATTAGA CATGATTAAT  | 4800 |
|    | TCCTCCCAA TTGGATAATT ATTTATATAT AAATCTTACC CGGTTGTACT TTCGTTAAAC   | 4860 |
| 40 | TTTTCTAAGT CTATAGCACT ATTTATTCAT TTATCTAAAG ACAACAACAT TAGATTAATA  | 4920 |
|    | TATAATGATT TTGAGGTGAA CATAATGTCT TTTCTTAGGA AACACGCCGA AATTATTTTT  | 4980 |
| 45 | AGCTATTTAA TCGGTmWCGT TcACTCTTCA CTGGkcTCAT TATTTTAATT AACTTGCCAT  | 5040 |
|    | TAATTAAACA ATTAAATGGT GGTAaaaaAG TTGATACACA TGTTCATAAT GTGTGGGAAT  | 5100 |
|    | TTCTGAATGC ATTTTTTCACT GAAATTATTA AAGTAATGAG TCGATTTATA GGTAATTTCC | 5160 |
| 50 | CCATAGTTAG TGCAATTGTG ATAATTATAT TCGGTATTTT AGTTATGTTG ATTGGTCATA  | 5220 |
|    | CATTACTTAG AACTATTAAG TATGACTATG ATATTTCTAT CTTTTTCTTA GTTATCGGTA  | 5280 |

|    |  |      |
|----|--|------|
|    | TTTTCAATTAT TCCATTTACA ATTCATATAG GATATATCGT CTATAAAGAT GAATTGAATC | 5400 |
|    | AGGAAAATGT AAAAAATCAT TTCATGTGGA TAATTGTGAG TTATGGTATA AGTTACTTAA  | 5460 |
| 5  | TTACACAAAT TGCATTGTAT GGCAGAATTG ATGCTAATGA AATAGAGTCA ATTGATATCT  | 5520 |
|    | TAAGTGTCAA TGCTTTCTTT ATAATTATGT GGTACTTGG TCAAATGGCT ATTTGGAATT   | 5580 |
| 10 | TCTTGTCTT GCGCCGAGCT TTACCTTTAA CAAAGCAAGA ATTAGGTGAA GAGGAGCCAG   | 5640 |
|    | AATTATCAAG AACAAGTAAA GGGAATGTCA CGAATCAAAC TAAAATTCAC TTGAAACAAC  | 5700 |
|    | TCCAAGATAA GACTACAGAA TATGCACGTA AGACAAGAAG AAGTGTCGAT TTAGATAAAA  | 5760 |
| 15 | TTAGAGCTAA AAGAGATAAA TTCAAAAAGA AAGTTAATGA TATTATCGAT ATTCAAGAAG  | 5820 |
|    | ACGATATTCC TGATTGGATG AGAAAACCGA AATGGGTAA ACCAATGTAT GTCGAACTAT   | 5880 |
|    | TTTGTGGTGT CGTCATCTTT TTATTCACAT TTTTAGAATT TAATAATCGT AATGCATTAT  | 5940 |
| 20 | TTGTATCTGG TGATTGGAAA TTATCACAGA CACAATATGT TATTGAATGG GTTACATTAT  | 6000 |
|    | TAATTCTGTT ATTCATTATT ATCGCATATA TCGCTACAAC GTTAACTTTC CACTTGAAAG  | 6060 |
|    | GTAAGTTTAA TTATTTACAA TTATTTATGG GGAGCATTTT ATTCTTTAAA TTGTTAACGG  | 6120 |
| 25 | AATTTATAAA TATAATGATT CATGGACTAT TACTTTCAGT GTTCATTACG CCAACATTAC  | 6180 |
|    | TATTAATGTT ATTGGCAATC ATCATTCTTT ATTCGTTACA ATTACGAGAG CGACCATAAT  | 6240 |
|    | TAAAAGCATT ATAAAAGTAC TATCTATTAA ACATTTTGAT GTGTACGCTA TAAGTTAGAT  | 6300 |
| 30 | ATATCTCTAA CTTACTTAGA TACAGGTCAA TGAAGTTTAT GGATAGTACT TTTTTTGTA   | 6360 |
|    | CTAGATTTGA TTGATTCAGG TGATGTGAAT TAAGTATTGA TAATTGTATA CAAAGTTTAA  | 6420 |
|    | GTGCAAATAA AATAGTTGAA AAGTTATCCA TTTGTAAAAT CAAGAAACT AGTAAATAGT   | 6480 |
| 35 | TGAAGCGACT TATGGaATTT GCGAAACGAT ATATAGTATT TCCTTTGTAG AAATTTmACA  | 6540 |
|    | TATATCATTc AAATTACTAA TTTGTAAAA TCAACAGTAA GATTAGAAGT AGATGATATT   | 6600 |
| 40 | GAAATTTGGC AAACAaTtTA ATCTATATAA AACTACAACG AAACACAGAA AGGAAGTTGT  | 6660 |
|    | CAGATGAAAA TAGCAACTCT GAACAAAGGC AAAGAAACAA AATATTTTAA TGGATATCCT  | 6720 |
|    | TTAATTGAAG AAGAGGATAT CTATTCACAA GATCATTTAA AAGAAGGAGA TATTTTTCAA  | 6780 |
| 45 | ATTGTGACTG ATAAATCACA ATAT   | 6804 |

(2) INFORMATION FOR SEQ ID NO: 366:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1717 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 366:

|    |   |      |
|----|---|------|
|    | aaaAGAGACG CATTaAAACA AGCTATACAA ATTATCGATA AATTAAACATG GGGTGTtTAG  | 60   |
| 5  | TGGTGGTTAA AGAAATTTTG AGACTATTAT TCTTACTAGC GATGTATGAG CTAGGTAAGT   | 120  |
|    | ATGTAACTGA GCAAGTATAT ATTATGATGA CGGCTAATGA TGATGTAGAG GCGCCAAGTG   | 180  |
|    | ACTTTGAAAA AATCAGAGCT GAAGTTTCAT GGTAATAGCT ATTATCATTt TTGAATTAAT   | 240  |
| 10 | TATATTAATG TGTGTAGCAA TAGCACTGGA GGTGTTGTAA ATATGTGGAT TGTCAATTCA   | 300  |
|    | ATTGTTTTAT CTATATnTTT ATTGATCTTG TTAAGTAGCA TTTCTCATAA GATGAAAACC   | 360  |
|    | ATAGAAGCAT TGGAGTATAT GAATGCTTAT CTTTTCAAGC AGTTAGTAAA AAATAATGGT   | 420  |
| 15 | GTTGAAGGTT TAGAAGATTA TGAAAATGAA GTTGAACGAA TTAGAAAAAG ATTCAAAAGC   | 480  |
|    | TAAAGAGAGG CGTTGGCTTC TCTGCTCTAT CyAAAAATAAT GAAAGGAGCC saACATGTTA  | 540  |
|    | GaCmAAGtCA CTCAAATAGA AACAATTAAA TATGATCGTG ATGTCTCATA TTCTTATGCT   | 600  |
| 20 | GCTAGTCGTT TATCTACACA TTGGACTAAT CACAATATGG CTTGGTCTGA CTTTATGCAG   | 660  |
|    | AAGCTAGCAC AAACAGTTAG AACTAAAGAA GATTTAACTG AGTACAATAA AATGTCTAAG   | 720  |
|    | TCTGAACAAG CCGATATAAA AGATGTTGGC GGATTTGTGCG GTGGATATTT AAAAGAAGGC  | 780  |
| 25 | AAACGGCGTG CTGGTCAAGT CATGAATCGT TCAATGCTAA CACTTGATAT CGATTATGCA   | 840  |
|    | GCCCCAAGATA TGA CTGACAT ATTATCTATG TTTTATGATT TTGCATATTG TTTATATTCA | 900  |
| 30 | ACACATAAGC ATAGAGAGAT AAGTCCAAGA CTGCGTTTAG TGATTCCTTT AAAACGAAAT   | 960  |
|    | GTAAATGCAG ATGAGTATGA AGCTATTGGG CGTAAAGTCG CAGATATCGT TGGCATGGAT   | 1020 |
|    | TACTTCGATG ATACAACTTA TCAACCACAT AGGTTAATGT ATTGGCCTTC AACTAGTAAC   | 1080 |
| 35 | GATGCGGAAT TTTTCTTTAC CTATGAAGAT TTACCTTTGT TAGACCCAGA TAAAATATTA   | 1140 |
|    | AATGAATATG TTGATTGGAC TGACACATTA GAATGGCCAA CGTCTTCAAG GGAAGAGAGT   | 1200 |
|    | AAGACTAAAA GATTAGCAGA TAAGCAAGGC GACCCAGAAG AAAAGCCGGG AATTGTTGGT   | 1260 |
| 40 | GCATTTTGTA GAGCCTATAC GATAGAAGAA GCTATAGAAA CTTTTATTCC TGATTTATAC   | 1320 |
|    | GAAAAACATT CTACTAACCG TTATACCTAT CATGAAGGTT CAACTGCAGG TGGATTGGTG   | 1380 |
|    | TTATACGAAA ATAACAAGTT TGCCTATTCT CATCATAATA CGGATCCCGT AAGCGGTATG   | 1440 |
| 45 | CTTGTGAACA GTTTTGATTT AGTACGCATA CACTTATATG GTGCTCAAGA TGAAGAACT    | 1500 |
|    | AAAACAGATA CTCCGGTTAA TCGACTACCT AGTTATAAAG CAATGCAGCa AAGAGCGCAA   | 1560 |
| 50 | AATGATGAGG TTGTTAAAAA GCAATTAATT AATGACAAAA TGTCTGATGC AATGCAGGaT   | 1620 |
|    | TTGATGAAn GAGAAAATAG CGATGATGCA TGGTCTGAGA CGTTnGAAAT TACTTCGAAA    | 1680 |

## (2) INFORMATION FOR SEQ ID NO: 367:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1847 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 367:

|  |      |
|--|------|
| AAGATTAGGC ATCAAGACAG GGTCCGCGATT GTTTGAAATC CCACATAGnA ATGATATTTa | 60   |
| CaTTATCAAT CCaAGTATGC GTAAATATCT TAATGTTTCA GTTGCTATTT CTAAGATTGC  | 120  |
| ATTGCGTTAT ATTCCACCTG AAGATTTACA CCAATATAGT ATTGACGAAT TTTTATGGA   | 180  |
| TGTTACTGAT AGCTATCATA GATTTAGTTC TACAGTACAT GCATTTTGCG AAAGACTTAA  | 240  |
| ACGTGAAATT TATGAAGAAA CAGGCATTTA TTGTACTGTG GGCATTGGTT CTAATATGTT  | 300  |
| ATTAAGTAAA ATTGCTATGG ATGTTGAAGC GAacATAGTc AAAATGGTAT AGCTGAATGG  | 360  |
| CGATATCaAG ATGTACCAAC GAAATTATGG CCAATTCmGC CctTGCGAGA TTTTGGGGT   | 420  |
| ATTAATCGTC GAACAGAAGC CAAATTGAAT AAAAGAGGAA TTTTACTAT AGGAGATTTA   | 480  |
| GCGAAATATC CATATAAATT TTTAAAAAAA GAGTTCGGTA TTTTAGGTGT TGATATGCAT  | 540  |
| CTACATGCCA ATGGGATAGA TCAGAGTAAA GTACGTGAAA AGCACAAGAT CAGCAATCCA  | 600  |
| TCGATATGCA AAAGTCAAAT ATTAATGAGA GATTATCATT TTGATGAAGC AAAAGTAGTA  | 660  |
| ATGCAAGAGT TAATTGAAGA TGTGCTAGC AGAGTTCGAG CAAGAAAAAA AGTGGCAAGA   | 720  |
| ACGATACATT TTGCCTTTGG CTATAGTGAT GAAGGCGGTG TACATAAGCA ATATACTTTG  | 780  |
| AAAGATCCAA CAAACTTAGA AAAAGATATT TATAAAGTAG TAATGCATTT CGCAGATAAA  | 840  |
| TTATGTAATA AACAAGCACT ATATCGTACG CTAAGTATAT CTTTGAGTCA ATTTATTAAT  | 900  |
| GAGGATGAGC GACgTTAAGT CTGTTTGAAG ATGAATACCA ACGCAAACGT GACGAATGTC  | 960  |
| TAGCTAAAC GATAGACCAA TTACATTTGA AATACGGCAA AGGTATTGTG TCCAAAGCAG   | 1020 |
| TATCGTTTAC AGAAGCAGGT ACAAACACG GCAGATTAGG TTTAATGGCT GGACATAAAA   | 1080 |
| TGTAATGACT ATACGGTTTA AGTAATATAT AACTGTGATT CGTATAAAAT AAGTCTCTAA  | 1140 |
| AGATAAATAT TTCATATATC ACAATAGATT TTCACAATAA TATCTAAGAA TACATGGAAT  | 1200 |
| TTATCAAAAG AGACTTAATA ATTATTGGAT ATAACAATCA AAATCACTCA ATGCTTGCAT  | 1260 |
| ACCGCGTTCT CGGTCAGTAG GGTTTTGA ACTAATTTTT AAAGCACCGT ATATATCTTC    | 1320 |
| GCGTACTTCT AAGATTCTTA AGTTGCTTAT AGATATGTTA TGTAAACTCA GGATATAAGT  | 1380 |

TAGTCCACCT AGTTGTTTAG CGGGTAGTGC GTCGCGATAC GATTTAGCTT GGGCAAAAAA 1500  
 TGATAACAAT TTTTCAGAAT CATTGCTTTC AATTAGTCTT TCTAAATCTT GAAACTGACT 1560  
 5 TTTTAGCTGT CGAATCATT CTAAAATATA CGTTTTATTA CTCAAGGTGA TATCTTTCCA 1620  
 CATTTGTGCA TTACTIONTAG CTATACGAGT GATATCACGA AAACCACCAG CTGCAAGTTT 1680  
 ATTAATAAAA TGATGTTCTT GACCGTTCTT TTGACTAACA TGAATAAAC TAGATGCAAC 1740  
 10 GATATGAGGT AAATGACTTA CGACGCTTGT TACGTAGTCG TGTCTTCAG CAGTAGTTAC 1800  
 AATAAATTTA GCAAGAGTAG GTGATAACAG TTCTTTTAAC GTGTTTG 1847

(2) INFORMATION FOR SEQ ID NO: 368:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 494 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 368:

AACAAAAGGC ATAAGTTCGT GAATTAATGC GTATACAAGG ATAAAGCTTA TAACAGTAGT 60  
 AATTGTTGCT ATCAAACGAA CAACATATAT TCTATTTTCA GATAGCAATC GATTCATAA 120  
 TCGATAATTT ACGTATACAA GAATTAACAA CAGCACAATA TAAACAATAA TCATATTTGG 180  
 30 CCCCATTTAA TTTTAAATT TGTTTCACA TCATTTTCTA CTTTATTATC ATACTAATTT 240  
 TAAAGGCAAA GGTGGACATC GGCAACCTCT CGTAACTAT TTATCAAAAA TAAACGTATC 300  
 TCATTGTTAT GATATTTATA AATCAATTCG TTTTATTAA AGTCTTTTTT AACAAGTTTG 360  
 35 TCACTATCTA TTAAATAATC ACGCATGCAT CCTTTAAGA AATCATCTTT ATAACCTGGT 420  
 GTGTACCATT TTCCATCCTC TTCAATGACA ATGTTGCCAA TATCAAATTC AAGGACCTTG 480  
 CCGTCCTCTG AAGT 494

(2) INFORMATION FOR SEQ ID NO: 369:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2518 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 369:

TAAATTTT CCGCTCCAAC CAACTAAAAA TGGGTAAATC CCTGGATTTA AATCTACTTC 60

|    |            |            |             |            |            |             |      |
|----|------------|------------|-------------|------------|------------|-------------|------|
|    | GATAATTTCT | AATGTAGCGA | CCATCATTAC  | GAGATGATTT | GATATAAGCA | CAGTTTGGAT  | 180  |
|    | GTTGACCAAT | ACTATCGCCT | TCTTCTTCGA  | TGATATCTAT | TTTAATACCA | TCATCAGCTG  | 240  |
| 5  | CAATTTCTAA | TGAAGATTTA | ATTCGGTTAT  | CAAATGTTGA | ATATCCCATT | GCTCCACCCA  | 300  |
|    | CAATAGCGAC | ATCTGTACCA | TGTCCTTGGT  | GTGTTTGAGC | AAATGATTCA | TAATAATGTA  | 360  |
|    | TTTCAATATT | TTTAGGAATA | TCTCCCAATA  | TTGCGCGTGC | TGAATTCCCA | ATCTTTACTG  | 420  |
| 10 | CACCAGCCGT | ATGAGAACTT | GAAGGGCCCCA | TCATAACTGG | TCCGATAATA | TCGAAAGCAC  | 480  |
|    | TTTGATAATC | ATAGCTCTTT | GCCATAATTA  | AACACTCTCC | TTAATATGAT | TCTTTTTGCT  | 540  |
|    | CGGCATTTTA | AAGTTGATAT | TCATTAAATT  | AAACTTATTA | ATTAGTGTTT | CAATAATATA  | 600  |
| 15 | GGCTAAGACA | ATGCTGACAA | TAATCACTGT  | TGCGAATTGT | ACAATTGATG | TCACTGCATT  | 660  |
|    | ATTAAAGCCA | AACAATACGA | TGGCGCCTGC  | AATTGGTGT  | GCCATACCTT | TGACACCTAT  | 720  |
| 20 | TACTAGTCCG | CTAAATGTCA | CGATACATGC  | GTTGACGACC | CCAATCAGTG | CAITTTGTACC | 780  |
|    | ATATAGTTGT | ACTGGATATT | GCGCTATTAA  | ATCAATTTGC | GTCAATGGCT | CAATACAAAC  | 840  |
|    | TGCAAATGCT | TTTGACGGTC | CACCAATGTT  | TAATTTTCGG | AATAAAATAA | GGTTAACAAA  | 900  |
| 25 | TGAGCTACCT | GTACATGTTA | GTGCTCCAAT  | AGCCATAGGA | ACACCTGTCA | GTCCTAATAA  | 960  |
|    | ACTTGTTAAT | ACCATTGAAC | TTAGCGGTGT  | CATACCTGTA | ACAGGAATCA | CTAGTCCTAA  | 1020 |
|    | AATGACCGCT | AATGCATATG | GATTGTTATC  | ACCTACCGCA | GTGACAGCAC | TACCTATTTG  | 1080 |
| 30 | TTTTAATGTT | GCTAGCACAC | CAGGTGTAAT  | GATTGATGCA | AGTCCGAAAG | CAATTGCTGG  | 1140 |
|    | TGCAAATAAG | ATCACCACAA | TTAAGTCCAA  | GCCTTCTGGA | ACTTTCTTTT | CAATCCATTT  | 1200 |
|    | AATTAATAAA | GCTACGCCAT | AAGCTGCGAT  | GAATGCTGGT | AATAATTTAA | AGTCATGTAA  | 1260 |
| 35 | TACTAAACCA | ACAATGACCG | CAAATACTGG  | TGCAACGCCT | AAGTTTAAGC | ACGTTAGAAT  | 1320 |
|    | ACCTACTGCG | ATACCGCTTA | AACTTCTGTC  | TAAATCCCCA | ATATCTTGTA | GAAATTTAAT  | 1380 |
| 40 | ATCAAATACG | CCACCAATAG | CATAACTTAA  | GAATGCTTGT | GGTAGAAATG | TCGCACAAGC  | 1440 |
|    | TGCACCGGAT | AATGCTTGTA | GTCCTTGTTT  | ACCGTACGGT | GCATACTTTA | AAAATAGCGT  | 1500 |
|    | CATGATCACT | AAAACCAAGA | CTAATGTGCC  | TACACCTAAC | AGAATATCCA | TTTCCCAAAA  | 1560 |
| 45 | ACCTCTCTCT | ATGTTTATTT | TATTTTCAGA  | CCATAAACAT | CGTACACCCT | TAAGAAAACG  | 1620 |
|    | TTTTCAACTT | TTATCTGTTA | TCAAATCAAA  | TATTTAAGTG | AAATATTTCA | TATTTGTGAA  | 1680 |
|    | AGATTTTTTA | AATGGATTGT | TTCAAAAAC   | ACTTATGTTG | TCGTTAATAT | TTACTAATTA  | 1740 |
| 50 | ACTTTTTACT | CTATATTTC  | AACAGTTGTG  | TGACAGTTTT | TTGATAACTT | TTTTACATCT  | 1800 |
|    | GAAAGTAAGT | AATATTTCTA | AAAACTTTTA  | ATATTTATAC | ACTTTATCTT | TCGAGCTATT  | 1860 |

|    |   |      |
|----|---|------|
|    | ACACATATAT TTGCAATAAG ATAATTAAAG TAGGATATTA TTTTtagTTT TCTGATAGGA | 1980 |
|    | ATGATGATAG TCTATAGGTT GAATCTTTAC TTTTTTTTAA AGCTAAATTT ACATCAACTT | 2040 |
| 5  | AACAATGGTT GGTtATACTG AAGATGAAAA TATTTAGTAT AACTTAGTGG AGGCGATAAA | 2100 |
|    | GGTGCAATTG AGTCATTCCG TTAAAGTTGC AATTtCTATC TATTTAGCAC TTATCTTTAT | 2160 |
|    | AACGTTCACT TCTTATTTAG TCATTATTTT ATATACGAGT ATGACTGGAC ATGATGTATC | 2220 |
| 10 | ACATTTCTGT TTAGATAGTC AGCATTCTCA TCATGGATCT CTTACGCAA AACATTTGAG  | 2280 |
|    | TCTTCCTGAA ATCTCATTTA AATAGTTTAT CCTCTGTGTT TCAACATTCA TTTCCCATAT | 2340 |
|    | CGATTCATTT ATCTATCATC TAGACCACTA CATCTTAGAT GATTTTTTTA TTTTCTCATT | 2400 |
| 15 | TCACTCTTTC TTAAAAGTCG ATATAATGAA TTAAATCATT ATCATACACC GACATATTTT | 2460 |
|    | ATGTTGTTGG TGTTAAGTTT aaAGGGGTGA GATACTTGGC GAATaATCaT TCAGCTTT   | 2518 |

(2) INFORMATION FOR SEQ ID NO: 370:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 790 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 370:

|    |  |     |
|----|--|-----|
| 30 | ATACTACTGG ACCGTCnACC AATTGACAAA ACCTGAAAAC TGGATTTTTTA TTGCAGGATT | 60  |
|    | ACATCGAACC TGGAAGAACA ATCCCCAGGA GTTGATGATA TTCGAGATAT GGCATACAAT  | 120 |
|    | CAAGGTAGTT TAGATAAGAC AATTTATGAA ATTTCTAAAC GCACAGTACT ATTTTTAATA  | 180 |
| 35 | CAGAAAGATA TTACGGTATA TAATAAGACG ATTGACTGTT TAAATTATTA TAACTATAGT  | 240 |
|    | GACGAAAGAA TAAAGGATGA TTAAATGAAT TCACAAGAAT TATTAGCAAT TGCTGTGGAT  | 300 |
|    | GCAATTGACA ATACCCCAGG CGAAGATACG ATTTCTTTAG AAATGAAAGG TATCAGCGAT  | 360 |
| 40 | ATGACAGATT ATTTTGTGTT AACGCACGGA AATAATGAAC GACAAGTTCA AGCGATTGCT  | 420 |
|    | AGAGCGGTGA AAGAAGTAGC CAATGAACAA AATATAGAAG TAAAACGTAT GGAAGGATAC  | 480 |
| 45 | AATGAAGCGC GTTGATATT AATTGACTTA GCTGATGTTG TGGTACATGT TTTCCATAAA   | 540 |
|    | GACGAAAGAA ATTATTATAA TATTGAAAAG TTATATCAAG ATGCACCATT ACAATCATAT  | 600 |
|    | AGTCAGGTTG CGTATTAATT ATGTCGCAAT ATGCAGAAAT GAGCCTAGTG TACGATCAAT  | 660 |
| 50 | TGACTCAAGA TCAACCATAT GAAAAATGGT TTGAAATTGT AAAAAATCAC TGCAAAGATG  | 720 |
|    | AATCAAATAT TTTAGATATT GGATGCGGTA CTGGTAGTTa ACAGTTCAAT TAGAAGCTTT  | 780 |

## (2) INFORMATION FOR SEQ ID NO: 371:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1823 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 371:

|  |  |      |
|--|--|------|
|  | ATAGATGAAG GTGCAAATAT TGAAaTAGGT TATTTACCTG GACGCTTGAA ATGGTTAGTT  | 60   |
|  | GCTGATTTAT TAACTAAACA AGGATTAAAA GTAGTTAACG ACGATATGAC AGGAAGAACG  | 120  |
|  | TTAAAAGATC GTAAATTATT AACAGGTGAC AGTCCTTTAG CTTCAAATGA GTTAGGAAAA  | 180  |
|  | TTAGCAGTTA ATGAAATGTT AAATGCAATA CAAAATAAAT AATTAAATAT TAATTAGAGG  | 240  |
|  | AGCCTCATAT GTAAATGTAT GAGGGCTCTT TTTTGGGCA AAATTTAAGT GATACTTGTA   | 300  |
|  | AAATAGAACC TATTATGAGT ATGATTTAAG AAAACGCTTG CAAAATAAT AACCGCAACT   | 360  |
|  | AGCGATATGG AGGAAACATG ATGTCTTATA GCATTGGAAT TGATTATGGA ACTGCTTCAG  | 420  |
|  | GCCGTGTGTT TTAAATTAAT ACAACTAACG GTCAAGTAGT ATCAAAATTT GTGAAACCAT  | 480  |
|  | ATACACATGG TGTCAATTGAG AGTGAATTAA ATGGTTTGAA AATACCACAT ACATATGCAC | 540  |
|  | TTCAAATAG TAATGATTAT tTAGAAATTA TGGAAGAAGG AATATCATAT ATAGTACGTG   | 600  |
|  | AATCAAAAAT AGATCCAGAC AATATAGTAG GTATTGGTAT AGACTTTACT TCATCTACTA  | 660  |
|  | TTATTTTAC TGACGAAAAC CTTAACCCGG TACATAACTT AAAACAATTT AAAACAATC    | 720  |
|  | CACATGCGTA TGTGAAACTT TGGAAACATC ATGGTGCATA TAAAGAGGCA GAGAAATTAT  | 780  |
|  | ATCAAACGTC TATTGAAAAT AATAATAAGT GGTTAGGCCA TTATGGATAT AATGTTAGTA  | 840  |
|  | GTGAATGGAT GATTCCCAA ATAATGGAGG TCATGAATCG AGCACCAGAA ATTATGGAAA   | 900  |
|  | AAACGGCTTA TATTATGGAA GCGGGCGATT GGATTGTAAT TAAATTAAT AATAAAAATG   | 960  |
|  | TACGCTCGAA TTGTGGATTA GGTTTCAAAG CATTTTGGGA AGAAGAAACA GGGTTTCATT  | 1020 |
|  | ATGATTTATT TGATAAAATA GACCCCAAAT TATCAAAAGT AATTCAAGAT AAAGTATCTG  | 1080 |
|  | CACCGGTTGT TAATATTGGT GAAGCAGTAG GGAACTGGA TGATAAAATG GCACAGAAAT   | 1140 |
|  | TAGGATTATC AAAAGAAACT ATGGTAAGTC CTTTTATTAT TGATGCCCAT GCTAGTTTAT  | 1200 |
|  | TAGGTATTGG GTCTGAAAAA GATAAAGAAA TGAATATGGT GATGGGAACA AGCACATGCC  | 1260 |
|  | ATCTTATGTT AAATGAAAAG CAACATCAAG TGCCAGGTAT ATCAGGTTCT GTAAAAGGAG  | 1320 |
|  | CAATTATTCC AGAATTATTT GCTTATGAAG CGGGGCAATC AGCAGTAGGT GATTTGTTTG  | 1380 |

|    |   |      |
|----|---|------|
|    | CTGTATTTGA ATTAATGAAT GAAAAGATAA AACATCAAAT GCCAGGTGAA AGTGGGCTCA | 1500 |
|    | TTGCTCTTGA TTGGCATAAT GGAAATCGAA GTGTATTAAG TGATAGCAAT TTAACAGGTT | 1560 |
| 5  | GTATCTTTGG ATTAACCTTA CAAACTAAGC ATGAGGATAT TTATAGAGCm TATTTaGaAG | 1620 |
|    | CTACaGCATT TGGTACTaAG ATGATTATGC mACAGTATCA AGATTGGCAT ATGGaAGTAG | 1680 |
|    | aAAAGGtATT TGCaTGTGGc gGTATACcTA AAAAGAATGC TGTTATGATG GATATCTATG | 1740 |
| 10 | CGAATGTACT GAATAAAAAA CTAATTGTTA TGGATAGTGA GTATGCACCA GCAATAGGCG | 1800 |
|    | CAGCAATATT AGGTGCAGTC AGT   | 1823 |

(2) INFORMATION FOR SEQ ID NO: 372:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1600 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 372:

|    |  |     |
|----|--|-----|
| 25 | ACGATCATCT GCATCAGCGA ATTCCGATGc AaTTcATATG tCctAATAAC AAAAGAATAG  | 60  |
|    | GTTTTaAAAG ATATGCATAC CGTAATGaTA GATATAGTTT TAAACGTGAC TTCAAGCTAT  | 120 |
|    | ATGaATGTGA TGA CTGTTCA TCATGTTCTT TGAGACATCA ATGCATGAAG CCAAATTCGA | 180 |
| 30 | AATCCAATAA GAAAATTATG AAGAATTATA ATTGGGAATA CTTTAAAGCC CAAATTAATC  | 240 |
|    | AAAAGCTTTC TGAACCAGAA ACGAAAAAAT CTATAGTCAA AGAAAAATTG ATGTAGAGCC  | 300 |
|    | TGTTTTTGA TTTATGAAGG CTATTTTGGG TtTCACTCGA ATGTCAGTTC GGAATAAAAT   | 360 |
| 35 | AAAGTTAAAC GAGAGCTAGG TTTTGTATTA ATGGCACTTA ATATAAGGAA AATAgcaGCT  | 420 |
|    | CAACGAGCTG TACATTATAA AATACATATC AAAAAAGCTG ATTTCTATCA AATAAATAAT  | 480 |
|    | AGAAATCAGC TTTTTTACAT TGCCTAAGAA CTTTAAGGAA CTTAATGTCC CAAGCTCTTT  | 540 |
| 40 | TTTGTTATAT CTAATTCGTA ATTTATGATT GTTTATTCCG TCCTTTGATG TTCACTAAAT  | 600 |
|    | GTGACTTTAA ATCTTGTTCT AATTGTTGTA ATTCTTTTTT AGCTAATTGT CGTTCTTCGC  | 660 |
| 45 | GACCGTGTG TTGAATAATT AATGTTTCTT CAATTGTCTC AATAATGTTA CGCTGTGTAC   | 720 |
|    | GTTTCAATGT ATCAAGATCA ACAATGCCAC GCTCATTTTC TGTTGCAGTT TCAATCCCAT  | 780 |
|    | TTTGTTTCAA CATTTTCAGCA TTTGCTGTTA ATAAATCATT AGTTGTATCA GTGACAGCTC | 840 |
| 50 | GTTGTGCAGC AACTGCATTA CGCTGTCTCA TTAATGTAAG CGCAATGGCC ATTTGATTTT  | 900 |
|    | TCCATAGTGG AATACTTGTC AAAATTGAAC TTTGTATCTT CTCGGCAAGT GCTTGATTAA  | 960 |

|    |  |      |
|----|--|------|
|    | AGTCATATAT GCGTTTATCT AGTCTATCTA TAAATTGCTG CATATCTGCA ACTTGTTGAA  | 1080 |
|    | TATCCATTTG ATTAGTGGAT TgtGCGCTTG CTGTTGCAAT TGTGGTAGCT TTTTCATTTTC | 1140 |
| 5  | TAATTGCAAC TTTTTTTGcT GTGCAGCAAT GATATGCAAT GATAAGTCAT CAAAGTATTG  | 1200 |
|    | TTTGTTTTTA TCATATAGCG TATCTAATAA TTCAATATCT CTTGTTAAAT GTGTTTGATG  | 1260 |
|    | TTTCTGCAGT TGAATCGTTA TGCGATCGAC TTGAGCACTA ACTGATTGCA TTCTTGAAAA  | 1320 |
| 10 | GATTTTCATTG ATAGACGACT TTGCTCTGCT AAAAATTCTT TTTAACATAG ATGGTTTATC | 1380 |
|    | AGTATTTAAC TCATTTGGAT TAACTGACTT TAGTTTTGAC ATTAGATCTG ACAAAGTATC  | 1440 |
|    | TCCAATAGGA CCAACATCTT TACTTTGTAC TTCATCCAAC ATTTGATGTG AAAATTGAGA  | 1500 |
| 15 | CATTTGTTTC TGKAAATCAG AACCAAACGC TAATAAACCT TCATTGTCTA AAGGGTTAAT  | 1560 |
|    | TTGTTTACTG ATTGTGTCTA CCTGTTTTTG TTGTTCAATT                        | 1600 |

(2) INFORMATION FOR SEQ ID NO: 373:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1227 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 373:

|    |   |     |
|----|---|-----|
| 30 | ATGTTGATAA TGGTAGCTTC TACAAGAATA AAGACCAACA AGTTGGTGCA ACAATTCTTG | 60  |
|    | aTAGTAAAAC TGGTGGTTTA GTTGCTATAT CTGGTGGACG TGATTTCAAA GACGTCGTTA | 120 |
|    | ACAGAAACCA AGCAACAGAT CCTCACCCTA CTGGTTCATC TTAAAAACCT TTCTTAGCGT | 180 |
| 35 | ATGGACCTGC CATTGAAAAT ATGAAATGGG CAACAAACCA TGCGATTCAA GATGAATCTT | 240 |
|    | CATATCAAGT TGATGGTTCT ACATTTAGAA ACTATGATAC GAAGAGTCAC GGTACTGTAT | 300 |
|    | CTATTTATGA TGCTTTACGA CAAAGTTTCA ATATCCCAGC TTAAAAAGCT TGGCAATCAG | 360 |
| 40 | TTAAGCAAAA TGCTGGTAAT GATGCACCTA AGAAATTGCG TGCCAAACTT GGCTTAAACT | 420 |
|    | ACGAAGGCGA TATTGGTCCA TCTGAAGTAC TTGGTGGTTC TGCTTCAGAA TTCTCACCAA | 480 |
| 45 | CACAATTAGC ATCAGCATTT GCTGCAATCG CTAACGGTGG TACTTATAAC AACGCGCATT | 540 |
|    | CAATTCAAAA AGTAGTTACT CGTGATGGTG AAACAATCGA ATACGATCAT ACTAGCCATA | 600 |
|    | AAGCGATGAG TGATTACACT GCATACATGT TAGCTGAGAT GCTAAAAGGT ACATTTAAAC | 660 |
| 50 | CATATGGTTC TGCATATGGC CATGGTGTAT CTGGAGTAAA TATGGGTGCT AAGACAGGTA | 720 |
|    | CTGGTACTTA CGGTGCTGAA ACTTATTCAC AATATAATTT ACCTGATAAT GCAGCGAAAG | 780 |

|    |   |      |
|----|---|------|
|    | AAGTTAAACA ATATGGTGAA AACTCATTTG TrGGACATAG CCAACAAGAA TATCCACAGT | 900  |
|    | TCTTATATGA AAATGTGATG TCAAAAATTT CATCTAGAGA TGGCGAAGAC TTAAACGTC  | 960  |
| 5  | CTAGCTCAGT AAGTGGTAGT ATCCCATCAA TCAATGTTTC TGGTAGTCAA GATAACAACA | 1020 |
|    | CTACAAATCG TAGTACACAC GGTGGTAGTG ACACATCAGC AAACAGCAGT GGTACTGCAC | 1080 |
|    | AATCAAATAA CAATACTAGA TCTCAACAAT CTAGAAACAG CGGTGGATTA ACAGGTATAT | 1140 |
| 10 | TCAACTAATC CACTCAACAT AAAATCCTCA GTTATACCAT ATTTATGGTG TAGCCGAGGA | 1200 |
|    | TTTTnTTAGG TTCTTCATCT TTTATGG                                     | 1227 |

## (2) INFORMATION FOR SEQ ID NO: 374:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1953 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 374:

|    |  |     |
|----|--|-----|
| 25 | CCATATGGtG CAACATTCTT CGTATTTAGT GATTATTTAA AACCAGCGTT ACGTTTATCA  | 60  |
|    | TCAATTATGG GATTAAATgC aACGTTcATC TTCACACATG AyTcaATTGC AGTAGGTGAA  | 120 |
|    | GATGGTCCTA CTCATGAACC AATTGAGCAA TTAGCTGGAT TAAGAGCCAT TCCAAATATG  | 180 |
| 30 | AATGTTATCC GTCCTGCTGA TGGAATGAA ACAAGAGTAG CATGGGAAGT TGCCTTAGAA   | 240 |
|    | TCTGAATCTA CACCTACTTC ATTAGTATTG ACACGTCAAA ACTTACCGGT ATTAGATGTA  | 300 |
|    | CCAGAAGATG TAGTTGAAGA AGGCGTTCGA AAAGGTGCCT ATACAGTTTA TGGCTCTGAA  | 360 |
| 35 | GAGACACCAG AATTCCTATT ATTAGCTTCA GGTTcAGAAG TTAGTCTTGC AGTTGAAGCT  | 420 |
|    | GCTAAAGATC TTGAAAAACA AGGTAAATCA GTACGTGTTG TTTCAATGCC TAACTGGAAT  | 480 |
|    | GCATTTGAAC AACAACTCTGA AGAATATAAA GAATCAGTTA TTCCATCAAG CGTAACAAAA | 540 |
| 40 | CGTGTTCGGA TTGAAATGGC TTCACCGCTT GGATGGCATA AATATGTAGG TACTGCAGGT  | 600 |
|    | AAAGTTATTG CTATTGACGG CTTTGGCGCA AGTGCACCTG GCGATTTAGT AGTTGAAAAA  | 660 |
| 45 | TATGGATTTA CAAAAGAAAA TATCTTAAAC CAAGTTATGA GCTTATAAGA ATAATTTATA  | 720 |
|    | AAGCGAGTAT GTTTAGAAGT CTAGGATGCA TAATCTTAGG CTTCTTTTAA AGTGTTGAAA  | 780 |
|    | TTTAGAGTAT AGCACTTAAA CTACATCATA AGTGATAAGT TATGAAAGTA TACTATTTCA  | 840 |
| 50 | GATTAATCTT TAAAAGCTCT GTTATAACAG CATGATTTTT GATATTATTT TTAGTATCGA  | 900 |
|    | TATTAAAATA CTTGAATAAA CTAGTTCTTG AAATAATGTG ATGAATTTAG TAAAATTcAG  | 960 |

TGCATTAATT TTAGGTTTAA TTGGAGGTTT CCTTTTAGCT AGAAAATATA TGATGGACTA 1080  
 CTTGAAGAAA AACCCACCAA TCAACGAAGA AATGCTTCGT ATGATGATGA TGCAAATGGG 1140  
 5 TCAAAAACCT TCTCAGAAGA AAATTAATCA AATGATGACG ATGATGAATA AAAATATGGA 1200  
 TCAAAATATG AAGAGTGCGA AAAAGTAAAT TCGCAATTGA TAGAGGCTAT TTTCCAGATA 1260  
 TGGAAATGGC CTCTTTTAT AATCAAATTA ATAAGAATAA ATATGTTTAT TAAAATTAAA 1320  
 10 GTTAACAAAA TGACGAATAG ACTGAGAAAT GCTATAATTC ATTTTGTATG ATTTACAGAG 1380  
 AGTTTATTTA ACGAGAAGGT GTCyGCGTGC TCTATTTAAT ATTTTCAATC ATTGTAGCTT 1440  
 TATTTATGGG AACTATAGTT ATAGTTATTC GTATGAAAGC TCAAATTAT CCGGTAAAKG 1500  
 15 AGAAAAAAT AGTTTGGC Ca CCgTTTTTTA tGGCgACCGG TGCATTGATG TACGTCGTTC 1560  
 CaTATTTTAG GCTAACAGGA TCGGAAATGC TAGAAGCCTT TATAATTGGT TTGCTTTTTT 1620  
 CtACAGTTCT AATTGGACT TCTCGATTTG AAGTCAAAGG TACAGAAATT TATATGAAAC 1680  
 20 GATCTAAAGC ATTTCCAGTT ATTTTGATTT CATTACTTAT CATTTCGTACT GTGATGAAAA 1740  
 TATTCATTAG TAATGAAATA GATCCTGGAG AATTAGGCGG CATGTTCTTT TTATTAGCAT 1800  
 25 TCTGTATGAT TGTTCTTGG AGAGCAGCAA TGCTATATAA ATACAAAAA CTAAAGAAAA 1860  
 CATTAAATCAA TTAATTACTT TTaAAACCAC TTGTGATCGA CTTCTAAATC AGTCAATGAG 1920  
 TGGGTTTAAT nTTACTTGGA AAAGGnGGAA AGG 1953

(2) INFORMATION FOR SEQ ID NO: 375:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3787 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 375:

ACATTTGATC AAnTTATCGA CATTAAAGAT GAATTCAnTT GATCGTnTCA ATGATTATCC 60  
 TGTGAAGTA GCACGTTTGC TTGATATAGT GGAmATaAAA GTACACGCAT TACATTCAGG 120  
 45 TATCcACGTT GATTAAAGAT AAAGGGAAAA TAATTGATAT TCATTTATCT GTAAAAGCCA 180  
 CTGAAAATAT TGATGGCGAA GTGCTGTTCA AAGCAACACA ACCTTTAGGT AGAACAATGA 240  
 AGGTTGGTGT TCAAATAAT GCAATGrCAA TTACTTTAAC GAAACAAAAT CAATGGCTTG 300  
 50 ATAGTTTGAA GTTTTTAGTT AAGTGCAATG AAGAAAGTAT GAGAATCAGT GATGAAGCAT 360  
 AAAGAAGCAT TTAATGGCGT TGTCGTGTTA ACTGCTGCAT TAATTGTCAT TAAAATTCTG 420

|    |  |      |
|----|--|------|
|    | CAACAAGTGT ATCCAATTGT AGCATTAGGA ATGATATTAT CGATGAATGC CATTCCCTAGT | 540  |
|    | GCAATTACAC AAAATATAGG GAAGTATCAT AGTGACGAAG CATATGCAA AGCAGTCGCT   | 600  |
| 5  | TATATACAAT TAGTTGGTAT ATTATTATTT ATTGCTATTT TTGTGTTTGC GAACAATATT  | 660  |
|    | GCACATATGA TGGGTGATGG CCATTTAACA CCAATGATTC AAGCTGCAAG TTTAAGCTTT  | 720  |
|    | ATATTTATAG GTATGCTTGG CGTGTTAAGA GGTTATTATC AATCTGCAA TAATATGACA   | 780  |
| 10 | GTTCCGGCTA TTTCCAGGT TATAGAACAA GTTATACGAG TAGGTATTAT CATTGTTACT   | 840  |
|    | ATTGTTATTT TTGTAGACAG AGGTTGGACG ATATATGAAG CGGGAACAAT TGCTATTTTA  | 900  |
| 15 | GCATCAACGA TAGGTTTTTT AGGTTCTTCA ATTTATTTAG TAGCGCACCG ACCTTTTAAG  | 960  |
|    | TTTAAATGG TAAATAACAC TGCAAAGATC GTTTGGAAAC AGTTCGCACT TTCGGTTTTG   | 1020 |
|    | ATTTTCGCTA TCAGTCAATT AATCGTAATT TTATGGCAAG TGATTGATAG TGTTACTATT  | 1080 |
| 20 | ATTAAGTCAC TTCAAGCGAT ACGCGTGCCA TTCGATGTTG CCATAACTGA AAAAGGAGTC  | 1140 |
|    | TATGACCGTG GTGCATCATT TATTCAGATG GGATTGATTG TAACTACAAC ATTTAGTTTT  | 1200 |
|    | GCGCTCATT CTCTGTTAAG TGACGCAATC AAAATGAATA ATCAGGTACT TATGAATCGT   | 1260 |
| 25 | TATGCAAATG CGTCATTAAA GATTACGATT TTAATAAGTA CAGCAGCGGG AATAGGATTA  | 1320 |
|    | ATTAATTTAT TGCCTTTAAT GAACGGTGTG TTTTTAAGA CGAATGATTT AACCTTAACG   | 1380 |
|    | TTAAGTGTTT ATATGATTAC GGTCAITTTGT GTATCGTTAA TTATGATGGA TATGGCATT  | 1440 |
| 30 | TTACAAGCGC AACATGCTGT GAGACCTATT TTTGTTGGTA TGACGGCAGG ATTGGTTATT  | 1500 |
|    | AAATTTATAC TTAATATCAT TTTGATTCGT TTAAGTGGCA TTATTGGTGC GAGCATTAGT  | 1560 |
|    | ACTGTTGTAT CATTAATTAT ATTCGGTACG ATTATCCATA TTGCTGTCAC GAGAAAATAC  | 1620 |
| 35 | CACTTATATG CGATGAGACG ATTTTTTATC AATGTTGTTT TAGGTATGGT ATTTATGTCT  | 1680 |
|    | ATTGTTGTTC AATGCGTGTT AAACATAGTG ACAACACACG GTAGAATCAC TGGACTCATT  | 1740 |
| 40 | GAATTATTAT GTGCAGCAGT ATTAGGTATC ATTGCATTGT TTTTCTATAT TTTTAGATTT  | 1800 |
|    | AATGTTTTGA CATATAAAGA GTTAACITAT TTACCATTTG GTTCAAAGTT GTATCAAATT  | 1860 |
|    | AAGAAAGGAA GACGTTGATG GCACATACCA TTACGATTGT TGGCTTAGGA AACTATGGCA  | 1920 |
| 45 | TTGATGATTT GCCGCTAGGG ATATATAAAT TTTTAAAGAC ACAAGATAAA GTTTATGCAA  | 1980 |
|    | GAACGTTAGA TCATCCAGTT ATAGAATCAT TGCAAGATGA ATTAACATTT CAGAGTTTTG  | 2040 |
|    | ACCATGTTTA TGAAGCACAT AACCAATTTG AAGATGTCTA TATTGATATT GTGGCGCAAT  | 2100 |
| 50 | TGGTTGAAGC TGCTAATGAA AAAGATATTG TCTATGCGGT TCCGGGTCAT CCTAGAGTTG  | 2160 |
|    | CTGAGACAAC TACAGTGAAA TTAAGTGCTT TAGCAAAGGA CAATACTGAT ATAGATGTGA  | 2220 |

|    |   |      |
|----|---|------|
|    | ATGATGGCTT CACACTGTTA GATGCGACAT CATTACAAGA AGTAACACTT AATGTTAGAA | 2340 |
|    | CGCATACATT GATTACGCAA GTTTATAGTG CAATGGTTGC TGCTAATTTG AAAATCACTT | 2400 |
| 5  | TAATGGAACG ATATCCTGAT GATTACCCTG TTCAAATTGT CACTGGTGCA CGAAGCGATG | 2460 |
|    | GTGCGGATAA CGTTGTGACA TGCCCATTAT ATGAATTGGA TCATGATGAA AATGCATTCA | 2520 |
|    | ATAATTTGAC GAGTGTATTC GTACCAAAAA TCATAACATC GACATATTTG TATCATGACT | 2580 |
| 10 | TTGATTTTGC AACGGAAGTG ATTGATACTT TAGTTGATGA AGATAAAGGT TGTCCATGGG | 2640 |
|    | ATAAAGTGCA AACGCaTGma AcgCTAAAGC GTTATTTACT TGAAGAAACA TTTGAATTGT | 2700 |
|    | TCGAAGCTAT TGACAATGAA GATGATTGGC ATATGATTGA AGAACTAGGA GATATTTTAT | 2760 |
| 15 | TACAAGTGTT ATTGCATACT AGTATTGGTA AAAAAGAAGG GTATATCGAC ATTAAAGAAG | 2820 |
|    | TGATTACAAG TCTTAATGCT AAAATGATTC GTAGACACCC ACACATATTT GGTGATGCCA | 2880 |
|    | ATGCTGAAAC TATCGATGAC TTAAAAGAAA TTTGGTCTAA GGCGAAAGAT GCTGAAGGTA | 2940 |
| 20 | AACAGCCAAG AGTTAAATTT GAAAAAGTAT TTGCAGAGCA TTTTTTAAAT TTATATGAGA | 3000 |
|    | AGACGAAGGA TAAGTCATTT GATGAGGCCG CGTTAAAGCA GTGGCTAGAA AAAGGGGAGA | 3060 |
| 25 | GTAATACATG AGATTAGATA AATATTTAAA AGTATCACGG TTAATAAAGC GACGTACGCT | 3120 |
|    | AGCAAAAGAA GTAAGTGATC AAGGTAGAAT TACAATAAAT GGTAATGTTG CTAAAGCTGG | 3180 |
|    | ATCGGATGTT AAAGTTGAAG ATGTGCTGAC GATTGCTTTT GGTCAAAAAT TAGTAACAGT | 3240 |
| 30 | TAAAGTAACT GCATTAAATG AACATGCATC TAAAGATAAC GCGAAGGGTA TGTATGAAAT | 3300 |
|    | CATTGAAGAG CGTCGACTTG AAGAAGCGTA AATTGGAGGT GACAAGCAAT GAAAAATAAA | 3360 |
|    | GTAGAACATA TAGAAAATCA GTACACGTCG CAAGAGAACA AGAAAAACA ACGTCAAAAA  | 3420 |
| 35 | ATGAAAATGC GTGTTGTTc TAGGCGTATT ACAGTATTTG cGGGCGTATT aCTTGCGATA  | 3480 |
|    | ATTGTTGTTT TATCaATCTT GCTTGTTGTC CAAAAACATC GCAATGATAT TGATGCACAG | 3540 |
|    | GAGCGAAAAG CGAAAGAAGC ACAGTTTCAA AAGCAACAAA ATGAAGAAAT TCGGTTAAAA | 3600 |
| 40 | GAAAAGTTGA ATAATCTGAA TGACAAAGAT TACATTGAAA AAATTGCGCG TGATGATTAT | 3660 |
|    | TACTTAAGCA ACAAAGGTGA AGTGATTTT AGGTTGCCAG AAGACAAAGA TTCGTCTAGC  | 3720 |
| 45 | TCAAAATCTT CGAAAAATA AATCCAAATT GATTCAAAAT TATCCGAGTA TAGACATTGT  | 3780 |
|    | GAAAAAA   | 3787 |

(2) INFORMATION FOR SEQ ID NO: 376:

- 50 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1644 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 376:

|    |  |      |
|----|--|------|
| 5  | TAAACCATTT CAAACTGAGG AACGCAAGA CCGsACgTTT CCAGATTTAG AAGTATTTAA   | 60   |
|    | AAATGAATGT GATTTAAGCT ATGACATAAC GTCACTTTAT ACTTTTAAGC AACCTGTATC  | 120  |
|    | ACCACACCTT GCATTTAAAA TGACAGATCA AATTTTTCTA AATAAGCAGC GTGTATTAGA  | 180  |
| 10 | TAAGGTAAAA GTTTTAGATA AGGAATTGA TTTTATCTTA ATTGAGGGTG CTGGGGGAAT   | 240  |
|    | TGCCGTACCA ATATATGAAG GTACAGATGA TTTCTACATG ACTAAAGATC TAATCAATGA  | 300  |
|    | TTGTGCAGAT TGTGTCATCA GTGTGTTGCC ATCAAAATTA GGTGCTATTA GCGATGCCAT  | 360  |
| 15 | TGTTACCAA GATTATGTIA ATCAGAATGT ATCGGCGAGT AATTTTTTAA TAATGAATCG   | 420  |
|    | CTATACAGAC AGCTATATTG AAAAAGACAA TCAAATGACG ATTGGAAAAT TAACAAATAA  | 480  |
|    | AACAGTCTAT ACATTTGAAG AACATGCCAC GTATGAAAAT TTCTCAGAAG CATTTTTTAA  | 540  |
| 20 | ACAATTAATA GGAGTTAAAA ATGAATTACA CACAACAACT TAAACAAAAA GACTCAGAAT  | 600  |
|    | ATGTTTGGCA TCCATTTACA CAAATGGGTG TATATAGCAA AGAAGAAGCA ATCATCATTG  | 660  |
|    | AAAAAGGAAA GGGTAGTTAC CTTTACGATA CGAATGGCaA TAAATATTTA GATGGTTATG  | 720  |
| 25 | CATCGTTGTG GGTCAATGTG CATGGTCATA ATAACAAATA CTTnAATAAG GTAATTAAAA  | 780  |
|    | AGCAACTCAA TAAAATTGCC CATTCTACGC TGCTAGGATC ATCAAATATT CCGTCAATAG  | 840  |
|    | AAC TTGCGGA AAAATTAATC GAAATCACGC CAAGTAATCT AAGAAAAGTA TTTTATTCTG | 900  |
| 30 | ATACAGGCAG TGCGTCTGTT GAAATCGCAA TAAAGATGGC ATATCAGTAT TGGAAAAATA  | 960  |
|    | TTGATAGAGA AAAATATGCC AAGAAAAACA AGTTTATAAC GCTAAATCAC GGTATCATG   | 1020 |
| 35 | GGGATACGAT TGGTGCGGTA AGTGTGGTG GTATCAAGAC CTTTCATAAA ATATTTAAAG   | 1080 |
|    | ACTTAATATT TGAGAATATT CAAGTAGAAA GCCCATCTTT CTATCGCAGT AATTACGATA  | 1140 |
|    | CTGAAAATGA AATGATGACA GCTATTTTAA CGAATATAGA GCAAATTCTA ATTGAAAGAA  | 1200 |
| 40 | ATGATGAAAT CGCAGGGTTT ATATTGGAAC CGTTGATTCA AGGTGCGACA GGCTTGTTTG  | 1260 |
|    | TTCATCCTAA AGGCTTTTTG AAAGAAGTCG AGAAATTGTG CAAAAAATAC GATGTCTTAT  | 1320 |
|    | TAATTTGTGA TGAGGTAGCA GTTGGTTTTG GGAGAACTGG AAAGATGTTT GCATGCAATC  | 1380 |
| 45 | ATGAAGATGT TCAACCGGAT ATTATGTGTT TAGGTAAGGC GATTACTGGT GGCTACTTAC  | 1440 |
|    | CACTTGCAGC TACATTGACA TCTAAAAAAA TATACAATGC ATTTTTAAGT GATTGCGATG  | 1500 |
|    | GTGTGAATAC CTTTTTCCAT GGTCaTACAT ACaCCGGAAA TCAAATcGTT TGTaCGGTTG  | 1560 |
| 50 | cATTaGaAAA TATaAGaCTT TATGaAAAAAC GTaAGTtnAT TGTgCACATa TTGaAACGaC | 1620 |

## (2) INFORMATION FOR SEQ ID NO: 377:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 431 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 377:

ATGATTTTtA aAAATCATTa AGTTAAGGTr GATACACATC TTGTCATATG ATCAAATGGT 60  
 TTCGCCAAAA ATCAATAATC AGACAACAAA ATGTGCGAAC TCGATATTTT ACACGACTCT 120  
 CTTTACCAAT TCTGCCCCGA ATTACACTTA AAACGACTCA ACAGCTTAAC GTTGGCTTGC 180  
 CACGcmTTAC TTGACTGTAA AACTCTCACT CTTACCGAAC TTGGCCGTAA CCTGCCAACC 240  
 AAAGCGAGAA CAAACATAA CATCAAACGA ATCGACCGAT TGTTAGGTAA TCGTCACCTC 300  
 CACAAAGAGC GACTCGCTGT ATACCGTTGG CATGCTAGCT TTATCTGTTC GGGCAATACG 360  
 aTGCCCATTG TACTTGTTGA CTGGTCTGat ATCcGTGAGC AAAAACGGCT TATGGThTTG 420  
 CGAGCTTCAG T 431

## (2) INFORMATION FOR SEQ ID NO: 378:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2006 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 378:

TTThTATAAC GTATTATAAA TCGTTAAAAA TTTTGGTTGT GTTTGCGTCA CGTAGACAAC 60  
 CTCCATAAAG TTA CTTAATC ACTCTCATCA TACAATAATT TTTACTCAA TTGGAAnAAT 120  
 TATAAAAAATT AAATATAGAT AGGCTTTGAA AATTAGTTTT ATACAAGGTT AGTAGCTGTA 180  
 ACTGTAAAAT GTTCTTAATA TTGTCAAAAT GTAATGCTTG AAAGCGCTTT TAAAaAATAT 240  
 TATTATATAC ATGGTTAGAC AAATAGACAA ATCACTATAC AAATATTGGG AGGAATATTT 300  
 TATGAAATCA ACACCACACA TTAAACCAAT GAATGACGTC GAAATTGCAG AAACGGTTCT 360  
 ATTGCCAGGA GATCCGTAA GAGCTAAGTT CATTCAGAA ACTTATTTGG ATGATGTGGA 420  
 ACAGTTCAAT ACAGTGCAG AAATGTTTGG TTTTACCGGA ACATATAAAG GTAAAAAAGT 480  
 TTCTGTCATG GGTTCAGGTA TGkGTATGCC ATCTATTGGC ATTTACTCTT ATGAATTAAT 540

|    |   |      |
|----|---|------|
|    | CATTGATTTA TATGATGTGA TTaTTkCACA AGGTGCCTCT ACTGATTCAA ATTACGTTCA   | 660  |
|    | ACAATATCAA TTACCAGGTC ATTTTTCGCC AATTGCTTCT TATCAATTAT TAGAAAAAGC   | 720  |
| 5  | AGTTGAAACA GCACGTGACA AAGGTGTACG TCATCATGTA GGTAATGTGT TATCAAGTGA   | 780  |
|    | TATTTTCTAT AACGCGGATA CAACAGCGAG TGAACGTTGG ATGCGTATGG GTATTTTAGG   | 840  |
|    | TGTAGAAATG GAATCaGCTG CaTTATACAT GaATGCAaTT TACGCTGGTG TCGAAGCATT   | 900  |
| 10 | AGGTGTGTTT ACAGTGAGCG ATCATTTTAAT TCATGAAACG TCAACAACaC CTGAGGAAAAG | 960  |
|    | GGAACGTGCA TTTaCAGATA TGATTGAAAT TGCACGTGCA TTGGTGTAGA TGATTATGAA   | 1020 |
|    | TGTTGAATAT TCTAAAATAA AGAAAGCAGT ACCTATTTTA TTATTCTTAT TTGTATTCAG   | 1080 |
| 15 | TTTGGTTATA GACAACTCAT TTAAATTGAT TTCTGTAGCC ATTGCTGATG ACTTAAACAT   | 1140 |
|    | ATCTGTAACG ACAGTAAGTT GGCAAGCGAC ATTAGCCGGT TTAGTAATTG GTATTGGCGC   | 1200 |
|    | TGTAGTATAC GCTTCATTAT CTGATGCCAT TAGTATACGC AACTATTTA TTTATGGCGT    | 1260 |
| 20 | GATATTAATC ATTATCGGAT CAATTATTGG TTACATTTTC CAACATCAAT TCCCATTACT   | 1320 |
|    | TTTAGTTGGA CGTATTATTC AAAGTCCGG TTTAGCTGCT GCAGAGACAT TATATGTGAT    | 1380 |
| 25 | ATATGTTGCA AAGTATCTTT CTAAAGAGGA CCAGAAGACT TACCTGGCT TAAGTACGAG    | 1440 |
|    | CAGTTATTCC TTGTCATTAG TTATCGGTAC ATTATCAGGT GGATTTATTT CTACGTATTT   | 1500 |
|    | AACTGGACA AATATGTTTT TAATTGCATT AATCGTAGTA TTTACGTTGC CATTCCCTATT   | 1560 |
| 30 | TAAATTATTA CAAAAAGAAA ATAATACGAA TAAAGCTCAT TTAGATTTTG TTGGCTTAAT   | 1620 |
|    | TCTAGTGGCA ACTATTGCTA CAACAGTCAT GCTGTTTATT ACGAACTTTA ATTGGTTATA   | 1680 |
|    | TATGATTGGT GCCTTAATTG CGATTATCGT TTTGCGCTA TATATTAAAA ATGCGCAACG    | 1740 |
| 35 | TCCATTAGTA AATAAATCAT TTTTCCAAAA TAAACGTTAT GCTTCATTTT TATTTATAGT   | 1800 |
|    | ATTTGTAATG TATGCTATCC AATTGGGTTA TATTTTACG TTCCCATTCa TAATGGAGCA    | 1860 |
|    | AATTTATCAT CTGcAACTAG ACACAACATC ACTGTTATTA GTACCGGGgT TaTATAGTAG   | 1920 |
| 40 | CAGTCATTGT TGGtGgCACT AAGTGGgTta AAATCGGgCG rAATATCTGG AATTCCAAAA   | 1980 |
|    | CCAAGCGGAT TATCACAGCC AATTAA  | 2006 |

(2) INFORMATION FOR SEQ ID NO: 379:

- (1) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 4858 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

|    |   |      |
|----|---|------|
|    | TGGGGAAAAA AAGACCCAGC AGTATTAGAA GAATCGTTAA ATATTTCTAT TGAAGAAATG   | 60   |
|    | AATCGTATCA TAAAATTAGT CGAAGAATTA CTTGAATTGA CTAAAGGAGA TGTAAATGAC   | 120  |
| 5  | ATTTCTTCTG AAGCACAGAC CGTGCATATT AATGATGAAA TTCGCTCGCG AATACACTCA   | 180  |
|    | TTAAAACAAT TGCATCCTGA TTATCAATTT GATACGGATC TGACATCTAA AAATCTAGAA   | 240  |
| 10 | ATTAAAATGA AACCTCATCA ATTCTGAACAA TTATTTTTTAA TCTTTATTGA TAATGCAATC | 300  |
|    | AAATATGATG TGAAGAATAA GAAAATTAAA GTTAAGACAA GGTAAAAAAA TAAGCAAAAA   | 360  |
|    | ATAATTGAAA TTACAGATCA TGAATTGGT ATTCCAGAGG AAGATCAAGA TTTCATTTTT    | 420  |
| 15 | GATCGCTTTT ATCgAGTGGA TAAATCTCGT TCAAGAAGTC AAGGCGGTAA TGGACTCGGA   | 480  |
|    | TTATCTATTG CTCAAAAAAT CATTCAATTA AACGGAGGAT CGATTAAAAAT TAAAAGTGAA  | 540  |
|    | ATTAACAAAG GAACAACGTT TAAAATCATA TTTTAATCAT GACTGAGACG TCAATCAAAG   | 600  |
| 20 | TCATAGGATC AATTTTTTTAA GTACACATTA GCTGTGACTA ATGTATAAGA ACAACTATAA  | 660  |
|    | AACAAATAAA CAGTGGTTCT TTATCATTTT TGTTGTACTC CAAAATTTA CAATAAAATA    | 720  |
|    | CATCTATAAA CCTAGAAGAA TCAACGCTTT TGTTGATTCT TCTTTTTAGC AGATAAATAG   | 780  |
| 25 | GTAAATCTAC TTTAACAAAT AACTAAATAG TGATATTATT ACATTGTAAG CGTTTCAACA   | 840  |
|    | TTTTTGTGGA GGGTGTA AAA TGACTAACGA AAGAAAAGAA GTTTCAGAGG CTCCTGTAAA  | 900  |
| 30 | CTTCGGTGCG AATTTAGGTC TAATGTTAGA TCTATATGAT GACTTTTTTAC AAGATCCATC  | 960  |
|    | ATCTGTACCA GAAGATTTAC AAGTCTTATT CAGCACAATT AAGAATGATG ACTCAATTGT   | 1020 |
|    | ACCAGCTTTA AAAAGTACAA GTAGTCAAAA TAGCGACGGC ACAATTAAGC GTGTCATGCG   | 1080 |
| 35 | TTTAATTGAT AATATTCGCC AATACGGGCA TCTTAAAGCC GATATTTATC CTGTAAATCC   | 1140 |
|    | TCCAAAAAGG AACATGTAC CTAAATTAGA GATTGAAGAC TTTGATTAG ATCAACAGAC     | 1200 |
|    | TTTGGAAGGT ATATCAGCAG GAATTGTTTC AGATCACTTT GCCGACATTT ATGATAATGC   | 1260 |
| 40 | TTATGAAGCA ATTTTAAGAA TGGAAAAACG TTACAAAGGA CCAATTGCAT TTGAGTATAC   | 1320 |
|    | ACATATTAAT AACAATACCG AACGTGGTTG GTTAAAAAGA AGAATTGAAA CGCCATATAA   | 1380 |
| 45 | AGTAACGTTA AATAATAACG AAAAAAGGGC ACTATTCAAA CAATTAGCGT ATGTTGAAGG   | 1440 |
|    | GTTTGAAAAA TATCTTCATA AAAACTTCGT TGGTGCAAAG CGTTTTTCAA TTGAAGGGGT   | 1500 |
|    | AGACGCACTT GTACCGATGT TACAACGTAC TATTACGATT GCTGCGAAAG AAGGTATTAA   | 1560 |
| 50 | AAATATACAA ATAGGCATGG CTCACCGTGG ACGTTTAAAC GTTTTAACGC ATGTCTTAGA   | 1620 |
|    | AAAACCGTAC GAAATGATGA TTTTCAAGATT TATGCATACA GATCCAATGA AATTCTTACC  | 1680 |
| 55 | TGAAGATGGT AGCTTGCACT TAACTGCTGG ATGGACTGGT GATGTGAAAT ATCACCTTGG   | 1740 |

|    |             |             |             |            |            |             |      |
|----|-------------|-------------|-------------|------------|------------|-------------|------|
|    | AAGTCACTTG  | GAAATTGTTG  | CACCTGTTGT  | TGAGGGGCGT | ACGAGAGCAG | CACAAGATGA  | 1860 |
|    | TACACAACGA  | GCTGGGGCTC  | CGACGACTGA  | TCATCATAAA | GCAATGCCAA | TTATTATACA  | 1920 |
| 5  | TGGCGATGCT  | GCTTATCCTG  | GTCAAGGAAT  | TAACCTCGAA | ACAATGAACT | TAGGAAACTT  | 1980 |
|    | GAAAGGCTAT  | TCTACGGGTG  | GTTCAATTGCA | TATTATTACT | AACAATAGAA | TTGGATTTAC  | 2040 |
|    | TACAGAACCA  | ATTGATGCAC  | GTTCAACAAC  | TTATTCTACA | GATGTGGCCA | AAGGTTATGA  | 2100 |
| 10 | TGTGCCAATA  | TTCCATGTCA  | ATGCAGATGA  | CGTTGAAGCT | ACTATTGAAG | CAATTGATAT  | 2160 |
|    | TGCAATGGAA  | TTTAGAAAAG  | AGTTTCATAA  | AGACGTCGTT | ATTGATTTAG | TAGGTTATCG  | 2220 |
| 15 | TCGTTTCGGA  | CATAACGAAA  | TGGATGAACC  | ATCAATTACT | AATCCaGTTT | CTTATCAGAA  | 2280 |
|    | TATTCGCAAA  | CATGACTCTG  | TTGAATATGT  | GTTTGGTAAA | AAGCTTGTTA | ATGAAGGTGT  | 2340 |
|    | CATTTTCAGAA | GATGAAATGC  | ATTCATTTAT  | AGAACAAGTC | CAAAAGGAAC | TAAGACAAGC  | 2400 |
| 20 | TCATGATAAA  | ATTAATAAAG  | CTGATAAAAT  | GGATAATCCA | GATATGGAAA | AGCCTGCAGA  | 2460 |
|    | TCTTGCAATTA | CCGTTACAAG  | CAGACGAACA  | ATCATTTACT | TTTGATCACT | TGAAAGAAAT  | 2520 |
|    | AAATGATGCA  | TTGTTAACAT  | ATCCGGATGG  | CTTTAACATT | TTGAAAAAGT | TAAACAAAGT  | 2580 |
| 25 | TCTTGAGAAG  | CGTCATGAGC  | CGTTTAATAA  | AGAAGATGGT | TTAGTTGATT | GGGCACAAGC  | 2640 |
|    | AGAACAACCTT | GCATTTGCGA  | CAATTTTACA  | AGATGGTACA | CCGATTCGCT | TAAGTGGTCA  | 2700 |
|    | AGATAGTGAA  | CGTGGTACAT  | TCAGTCATAG  | GCATGCCGTG | TTACATGATG | AGCAAACAGG  | 2760 |
| 30 | TGAAACATAT  | ACACCTTTTAC | ATCATGTTCC  | TGATCAAAAA | GCGACATTTG | ATATACACAA  | 2820 |
|    | TTCTCCGCTT  | TCAGAAGCAG  | CAGTAGTTGG  | TTTTGAATAC | GGCTATAATG | TGGAACAACAA | 2880 |
| 35 | AAAAAGCTTC  | AATATTTGGG  | AAGCACAATA  | TGGTGATTTT | GCAAATATGT | CACAAATGAT  | 2940 |
|    | TTTTGACAAC  | TTCTTATTCA  | GTTCTCGCTC  | AAAATGGGGA | GAACGTTTCA | GATTAACATT  | 3000 |
|    | ATTCCTTACCT | CATGCATATG  | AGGGTCAAGG  | GCCTGAACAT | TCATCAGCAA | GATTAGAGCG  | 3060 |
| 40 | ATTTTTTACAA | TTAGCTGCTG  | AAAATAATTG  | CACAGTTGTC | AACTTATCTA | GTTCAAGTAA  | 3120 |
|    | TTATTTCCAC  | TTATTGCGTG  | CACAAGCGGC  | TAGTTTAGAT | TCTGAACAAA | TGCGACCATT  | 3180 |
|    | GGTTGTTATG  | TCACCAAAAA  | GCTTACTGAG  | AAATAAAACA | GTTGCAAAAC | CAATTGATGA  | 3240 |
| 45 | ATTTACTTCT  | GGTGGATTTG  | AGCCAATTTT  | GACAGAATCA | TATCAAGCGG | ATAAGGTTAC  | 3300 |
|    | AAAAGTTATT  | TTGGCAACTG  | GTAAAATGTT  | CATTGATTTA | AAAGAAGCAT | TAGCTAAAAA  | 3360 |
| 50 | TCCAGACGAA  | TCAGTATTAC  | TCGTTGCGAT  | TGAAAGATTG | TATCCATTCC | CAGAGGAAGA  | 3420 |
|    | GATTGAAGCA  | TTACTAGCAC  | AATTGCCAAA  | CCTTGAAGAA | GTGTCATGGG | TACAAGAAGA  | 3480 |
|    |             |             |             |            |            |             | 3540 |

AGAAATTCAT AAACCTGTTC AAAATAAAAT TATAGAAAAT GCATTAAAAA ATAAC TAGGG 3660  
 GGAAATAAGT CATGCCAGAG GTTAAAGTTC CAGAATTAGC AGAATCTATT ACAGAAGGTA 3720  
 5 CCATTGCAGA ATGGTTGAAA AACGTAGGGG ATAGCGTAGA AAAAGGTGAA GCTATTCTTG 3780  
 AATTAGAAAC TGATAAAGTT AATGTGCAAG TTGTATCTGA AGAAGCAGGT GTATTATCTG 3840  
 AACAACTTGC AAGTGAAGGC GACACTGTAG AAGTTGGACA rGCAATTGCT ATCATCGGCG 3900  
 10 AAGGTAGTGG CAATGCTTCT AAAGAAAATA GTAACGACAA TACTCCACAA CAAAATGAAG 3960  
 AAACAAATAA TAAAAAAGAA GAAACAACAA ATAATTCGGT AGATAAAGCT GAAGTAAATC 4020  
 AAGCAAATGA TGACAATCAG CAACGTATTA ATGctACGCC TTCTGCGCGT CGATATGCTC 4080  
 15 GTGAAAATGG TGTGAATCTT GCTGAAGTAA GTCCGAAAAC AAATGATGTG GTTCGTAAAG 4140  
 AAGATATTGA TAAGAAACAA CAGGCACCGG CATCAACACA AACAAACAA CAAGCATCTG 4200  
 CAAAAGAAGA GAAAAAATAC AATCAATATC CTACAAAACC AGTGATTCTG GAAAAAATGT 4260  
 CACGTAGAAA GAAAACAGCT GCCAAAAAAT TATTAGAGGT ATCTAATAAT ACAGCTATGT 4320  
 TAACAACATT TAACGAatTG AcATGACAAA TGTtATGGAA TTGCGTAAAC GTAAGAAAGA 4380  
 25 ACAATTTATG AAAGATCATG ATGGTACTAA ATTAGGATTT ATGTCATTCT TTAATAAAGC 4440  
 TTCTGTAGCA GCTTTGAAAA AGTATCCAGA AGTTAATGCA GAAATCGACG GCGACGACAT 4500  
 GATTACGAAA CAATATTATG ATATTGGTGT AGCTGTTTCT ACAGATGATG GATTATTAGT 4560  
 30 ACCATTTGTA AGAGATTGTG ATAAAAAGAA TTTTGCAGAA ATCGAAGCAG AAATTGcTAA 4620  
 TTTAGCAGTT AAAGCaCGAG AGAAAAAACT TGGCTTAGAT GATATGGTTA ATGGTTCATT 4680  
 TACGATTACA AATGGCGGTA TTTTGGATC AATGATGAGT ACGCCAATTA TCAATGGTAA 4740  
 35 TCAAGCTGCA ATCTTAGGCA TGCATTCAAT TATTACAAGA CCAATTGCGA TTGATCAAGA 4800  
 TACAATCGAA AATCGTCCAA TGATGTATAT TGCATTAAGC TATGATCATA GAATTATT 4858

(2) INFORMATION FOR SEQ ID NO: 380:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2222 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 380:

ATCAGTCACA CGGTAGGCAT ATAAAATGAG TCGTTTCTAC AACATTTTTA AACAGTTCAT 60  
 TCAATATTAT TTTTATCTAA TAATnATATT GGGAGGATTA TACCTTTATA CACACCATGC 120

|    |   |      |
|----|---|------|
|    | ATGCTATTTA GCTAAAGCTA AAAGACCAGA CACTATGCAT ATTTCAACTG GAAATATGTG   | 240  |
|    | GCGATACTTA GTTGCAATTA TTGCCTGTAT GATTTGGTAC CTTAATAAAG CGCATGTAAG   | 300  |
| 5  | TATCATCGGT ATAATTATTG GTTTAATGAT TTCATATGTT GTAGTTATCA TACGTCCTTT   | 360  |
|    | ACTAAAGGTG AGCAAATAAA TTAAGAAAGA GGTGAGATTA TGGATCACAA ATCCCCGCTC   | 420  |
|    | GTGAGTTGGA ATTTATTCGG TTTTGaTATC GTTTTCAATT TATCAAGTAT ATTGATGATA   | 480  |
| 10 | CTTGTTACGG cGTTTCTTGT TTTTCTACTT GcTATCATTT GTACGCGTAA TTTGAAAAAA   | 540  |
|    | AGACCAACTG GCAAACAAAA TTTCGTTGAA TGGATTTTGT ATTTTCGTGAG GGGAAATCATT | 600  |
|    | GAAGGTAACA TGGCTTGGAA AAAAGGTGGT CAATTCCACT TCTTAGCAGT AACGCTGaTT   | 660  |
| 15 | CTGTACATTT TTATAGCTAA TATGTTAGGT CTTCCGTTTT CTATAGTAAC GAAAGATCAC   | 720  |
|    | ACATTGTGGT GGAAATCACC GACAGCnGAT GCAACAGTGA CTTTAACGTT GTCTACAACG   | 780  |
|    | ATAATACTGT TAACTCACTT TTATGGAATT AAAATGCGTG GTACGAAACA ATATCTTAAA   | 840  |
| 20 | GGTTATGTAC AGCCGTTTTG GCCATTGGCA ATTATTAATG TTTTGAAGA GTTCACTTCA    | 900  |
|    | ACATTAAACGC TTGGTCTGCG TTTGTACGGT AACATATTTG CAGGTGAGAT ACTATTAACA  | 960  |
| 25 | TTACTTGCTG GCTTATTCTT TAACGAACCA GCATGGGGTT GGATTATTAG TATCCCAGGA   | 1020 |
|    | TTAATTGTTT GGCAAGCATT TTCAATATTT GTAGGAACAA TCCAAGCATA TATCTTTATT   | 1080 |
|    | ATGCTTTCTGA TGGTTTATAT GTCACATAAA GTGGCAGATG AACACTAAAA ATTTCAATAA  | 1140 |
| 30 | TTATATACAA TCACAGGAGG AAATTAAATT ATGAATTTAA TCGCAGCAGC AATCGCAATT   | 1200 |
|    | GGTTTATCAG CATTAGGAGC AGGTATCGGT AACGGTTTAA TCGTTTCAAG AACAGTTGAA   | 1260 |
|    | GGTGTAGCAC GTCAACCAGA AGCACGTGGT CAATTAATGG GTATCATGTT CATTGGTGTA   | 1320 |
| 35 | GGTTTAGTTG AGGCATTACC TATCATCGGT GTAGTAATTG CATTATGAC ATTTGCTGGA    | 1380 |
|    | TAATTAACAG ATAAAGAGG TCGGGACAAA GCGCATAGGA CATAATTCAT GATGCATATA    | 1440 |
| 40 | TAGTAATATC TTTGAACTTT ATTAAATAGT TGAGATATGA ACGCACCATG CCTATCGCAT   | 1500 |
|    | AAATTCAGTA GGTCCTAACC TCGTCGTTTT TTTCTATATA AACTAGCGA TTATTTTAAT    | 1560 |
|    | GAAAGGAGTG TCATGAACCC GTGACTGAAA CAGCTAACTT ATTCGTTCTT GGTGCAGCTG   | 1620 |
| 45 | GAGGCGTTGA GTGGGGTACT GTGATTGTAC AGGTCCTAAC TTTCATCGTG TTAcTTGCGT   | 1680 |
|    | TACTTAAAAA GTTCGCATGG GGTCCATTGA AAGATGTAAT GGATAAACGT GAAAGAGATA   | 1740 |
|    | TTAACAGAGA TATCGATGAC GCAGAACAAG CTAAGTTAAA TGCACAGAAA CTTGAAGAAG   | 1800 |
| 50 | AAAATAAACA AAAACTTAAA GAAACACAAG AAGAAGTTCA AAAGATTTTA GAAGATGCTA   | 1860 |
|    | AGCAACGTA CGTGCAAACG  | 1920 |

|   |   |      |
|---|---|------|
|   | TTAATAATCa AGTATCTGAA CTATCAGTGT TAATTGCTTC TAAAGTTCTT AGAAAAGAAA | 2040 |
|   | TTTCTGAACA AGACCAAAAA GCATTGGTTG ACAAGTATCT AAAAGAGGCA GGCGATAAAT | 2100 |
| 5 | AATGGTAAAA GTAGCTAACA AGTATgcTAA AGCATTATTT GACGTGTCAT TAGATACAAA | 2160 |
|   | TAATTTAGAG ACTATTAATG AAGAATTAAC AGTTATAAAT GAAGCAGTAA AAGATAAAAT | 2220 |
|   | TG  | 2222 |

(2) INFORMATION FOR SEQ ID NO: 381:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1143 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 381:

|    |  |      |
|----|--|------|
| 20 | TAACAATTCC TaTATTTCATG TTTAATACGA AACACTACAT TTACATTGTA ATTCACTATC | 60   |
|    | TTTTGAAGTA ATAAAGTGAT TTGTTCAATC GATAGCTCAT TGCTTGTCGTC GATTGTAACA | 120  |
| 25 | ATTATATGCA AGTTTTTCAGG ATTAACACCT AATCTTTGAA TGATTTGTTT AATAGTATAA | 180  |
|    | TAATCCATCC AATAAAAAATT ACTTCCTTTA ATATAAATGT TTTTAGGTTG ATACATTGTA | 240  |
|    | CTCCTTTTTG TAGGCTCAAA AGGTATATCA ATCTCGCGCA TACTTGAAGA ACTTTGATTA  | 300  |
| 30 | GTATCATCAA ATAATTCAAT TATATTTTTA TCAATTTCAA CTAATTGGGA ATGGTTAATT  | 360  |
|    | GAATGAGATG TTGGACTATA TCTTTTTCTA ATTAATTTAG GAGTGTTACC ATACGTTTCT  | 420  |
| 35 | TTAAAGAGGT GTATAAACG AGAATAATGA TTAAACCAT GACTACTTGC GATTTCTTCA    | 480  |
|    | ATAGGCTTCT TAGrAGTTAA AATATCAATT AAGCAATGCT CCAGTCTAAT ATGATTTAAA  | 540  |
|    | TATTGAATAA AATTACTATA AGGTGTCGCT TTAAACATGT CACTTAAAGC TTTGTTTGTA  | 600  |
| 40 | ATACTAACTT GATTAATGAC ATCTTTCCTA TTTATCTTTT TATGGTGGTT GTTTGTTAAA  | 660  |
|    | TAATCGTGCA CTTCTTCGGC TACTAAATGA CGACTACCAT CGTATGTATT TAATGACATT  | 720  |
|    | AATTCAACAC ACATGTAATT AATAATCTTA TCATTAGCAT TATAAGACTG TTGTTTAATT  | 780  |
| 45 | TTGCTGTAGA TTAAATACTT AATCAAGATT CTAAAAGTGC TAGCAACCTC ATTTGTTAAT  | 840  |
|    | ATCTTGCCAC GCATCATATA GTTTGCATTC ATAAACTTCA AAAATGTCTT TGCACTTACT  | 900  |
|    | TCAACAACAC AACATACACT ATCATCATTA CCATCAATTT GATACAAATC ATTCAACATA  | 960  |
| 50 | ATAATGGTGA CATCATTTCT TTTTACATCA TATTGTTGTA GATTGATTGA AACTACACCT  | 1020 |
|    | GTACCTTGTA GCCAATATAT AATTTTtAAG TTCGCTTCCT TCACACTACT CATTTTCATA  | 1080 |

ATT

## (2) INFORMATION FOR SEQ ID NO: 382:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 506 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 382:

GGACCACCTT TTTTACCTGT ACGACTAAAG CCAACTGTTT TAAAGGCACC AACAGCATGC 60  
 CACACTTGAA TAATTTCTTG TGATGGTCTA AAGCGAACCG TATAAATTAA TGGATGGAAA 120  
 TCATCAACAA AAATATAATC GGCCTTACCA AGTAAATATG GCAATCTAAA CTTGTCTCTC 180  
 CATTTGCGTC TATCCGTAAT ATTCTCCTTA AATACCGTTT TAATATCATA ATCAAAATCT 240  
 ACTTTTTGGC GTAGTAACTC ATCATATACA TACTTGAAAT TCCCTGATAA ATTCCGACGC 300  
 GAATCTGATG TGAATAATAT TGTTTTGCTT CTTTAAATAT GTAGTAACTT TGTAATATTA 360  
 AAAATAGCTT TAAATAAGAA ACTTCTACTT TCAAATGAAG CTTTATGACC TTGTTTaTGA 420  
 AGCCAGTGTG cACTTgTCGC AATGaCCCCT GaTTTCyCyT GagGtAAGGk GaTTTCmATA 480  
 TCAAATACAA ATTCGTTAAC GTCACT 506

## (2) INFORMATION FOR SEQ ID NO: 383:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 421 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 383:

AGCATCTGCA AtGAGTcTCT AATACAACGA TACGTTTTGC ATCTTTAGGT ACTTTTACTG 60  
 TACCATTTTC ATCTTTTACC GAAATAGTAT CTTTAGTTGA TGATTCTTTT TTAATTGAAT 120  
 TATCCGTATT ACCACAAGCT GCAACTAAAA GTAAGGCAAC TATTAATCCC AATATACTAA 180  
 AAGTTTTTAG ACCTCTCATC GTTCCACTCC TTAATATGTA TAACTTCATT TATTATTTTA 240  
 TTGATAACAA TTATCATTGT CAAGTAGCGT TCAATCTTTT TTATATTTCT AAAATGTATG 300  
 ACTATATATT TCCTCTAATA ATTATGACTA CAATTAGCAC ATTCCTTAG ACAAATACT 360  
 CATATCTAT CATTTGCTATA TCATCTTTGC ATTAATACAA TTGACACCAT TTAGCATGAC 420

## (2) INFORMATION FOR SEQ ID NO: 384:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 862 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 384:

TGCACTTGAT ACTTTAGCAC ATGAAATTGC TAATCGATTA GTTGCAAATG ACAAGAATGA 60  
 AGCAACTTTG GAAATGACTA ATAAAAATGGC AACGATTCGT TTTACAGAAC CTACGCTGAT 120  
 TGCATTAGCA GGGGGTAATG TCAAAGCTTA CACTGAGCAT ATGACTATAT CTCCATATAA 180  
 ATTGTATTTG TTAGATAAAG GCGATGTTTT AAAGTTTAGA GAAACAAGTT ATACATCGCG 240  
 AGTGTATTTA GCTGTGGAG GCGGATTGA ATTAGATGCA TGGTTAGGAT CTAACCTAAC 300  
 CGACTTTAAT GTAAAAATTG GTGGTTTTAA AGGTAGAACA TTACAAGATG GCGATGAAAT 360  
 AAAGCTTAAG AGAGATTATA CAGCTCGTCA TCATAAGTTA TTTGAAAACC TTGCTCACAC 420  
 GAAACAAACA GATTGGGGTA TTGATGGATA CGCCTTGTC TTTAATTATA TGTCTGATGT 480  
 ATTTTCATGTC GTTAAAAATA AAGGTACGGA AGATTTTAAA GAAGATGCCA TTCAAAGATT 540  
 TGTGAAACAT GATTATAAAG TAACGAGCAA AGCAAATCGC ATGGGGATGA TGCTTGAAGG 600  
 TGAAAAAATC AAAGCTTTTT ATGAAGATAT GCCACCGTAT CAGACTGTCA AAAAAGGAAC 660  
 GATACAAATT AAGCGTGATG GCACACCTAT TATCCTATTA AATGATCATT ATACGCTAGG 720  
 TAGCTACCCG CAAATCGGTA CAATCGCAAG TTATCATTTA ACGAAATTAG CACAAAAACC 780  
 GCAAGGATCA CGTTTGAAAT TTCAATTTAT AGATATTTTA ACGGCTGAAA AGAACCTTGT 840  
 TAAgTATAGT AACTGGTTAA AC 862

## (2) INFORMATION FOR SEQ ID NO: 385:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1027 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 385:

AAATGAGTTG ATGATGGCTC CTATTCATC TATCTCTAGG TATGACAGAA sATAAACGGT 60  
 CTTCTACCTG TCTsACATTA TCTTTCCAAC GATTAATACC TAAGCGTTTA GAAACACGTT 120

CAGTTTTACG TCCTACACCT GCTAAACTTT CTAATTCCTT ATGTGTTTGT GGTATTTCTC 240  
 CATTAAATTG ATCAATCAAA GATTGACAAA GTTTCCTAAT ATTCTTAGCT TTGTTACGAT 300  
 5 ACAGACCGAT AGAACGAATA TCATTCATAA GTTCTTCATC ACTGACTGCC AAATAATCTT 360  
 CAGGCGTTTT GTATTTTTTA AACAGCTCAG TTGTTACTCT ATTTACTAGA ACGTCTGTAC 420  
 ATTGCGCTGA CAATAATACA GCAATAGTTA ATTGGAACGG ATTATCATGT TTTAATTCAC 480  
 10 ATTCTGCATC CGGAAACATA TTTGCTATAA CATCAATCAT TTCTAATGCT TTTTCTTAC 540  
 TTACCATCAA GGTTCCTCCC GTTTAACCAA TCAAATTTAG GTACCGTTTT AACTGTGTGC 600  
 GTCATTTTCG GTTTATTGAA TTTTCTCTT ATTTTCTAG AATCGTCAAT TGTTTTGACA 660  
 15 TTGTTTTTCT TCCAATTAAG TAAAATACGA TCTATATATT TAAAGCTAAG TTTATTCAAA 720  
 CTATTCGCCT CGTCTAATGC CGCTTGATA ATTGCAGTAT CGTGTTCATC AACATCAATC 780  
 CATTGATTTA ACGTTTCTAT TTCATATGGA GATAACGGCC TGCAAATGT ATCCTCTAAA 840  
 20 ACTCTAAATA ATTGTTTAAA TTTTCTTTA CTATTTAGCT CTTTCGTTTC CATACTTTGT 900  
 TGCTTCAATA TATGACTTAA TTTTTCGAAA AAAGGATCTA GATTCATATA TTCGGKAAAT 960  
 25 CTACCTTCYT CATCYTTTTG aACTkGtAAT tCTAGCAATT CACGTgTATC AAATTTTGA 1020  
 TACCATT 1027

## (2) INFORMATION FOR SEQ ID NO: 386:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1006 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 386:

AAGGnTTGGA GGGAATTAAT nGATGGCAAA TCCCAGaTAA AGTACACaAC GCATGGAATG 60  
 40 TGATGCATTT AATATTTCaA GTAGTTAGTA CGACGTTTGC AAGCTTTAAA TCTATGTATG 120  
 GGGGCATACC AAAAGATTTC ATAGACTACT TATTTATTGA TGAAGCAGGA CAAGCAATAC 180  
 45 CTCAAGCAGC TGTGGGAGCA TTATATCGTT CAAAAAAGT TGTAGCTGTA GGTGATCCGA 240  
 TTCAAATAGA ACCGGTTGTG ACTTTAGAAA GTCATTTAAT TGATAACATT CGTAAAAATT 300  
 ATCATGTTCC GGAATATCTA GTTCTAAAG AAGCTTCTGT GCAGTCTGTT GCAGACAACG 360  
 50 CCAATCAATA TGGTTTTTGG AAATCTGATG CTAAGTATAG TAATCAAAAA ACCTGGATAG 420  
 CCAATCAATA TGGTTTTTGG AAATCTGATG TAAACCTAT GTTCACGATa GCTAaCCAAa 480

GGTATGACGT TAAAGGAAaC GCAGTTCAAA AACAAATTTGT GAAAGAGCAT GGTGAAAAaG 600  
 TAGTGGGATT ATTAGCTGAT GATTGGATTG AAGCAATTAA GGAAGGTAAA AATGAACCGA 660  
 5 GCTCATTGT AATATCGCCT TTTTCAGCAG TACAGCAACA GATTAAACGT ATGTTAAAGC 720  
 AACAACTACC GACTAGAATT GATATTGAAC GTACAAAAAT TAATCAATGG GTCGATAAAT 780  
 CCATTGGTAC TGTTCACTACT TTTCAAGGTA AAGAGGCTCA GAAGGTGTAT TTTGTAATAG 840  
 10 GTACTGATAA TACCCAAGAT GGTGCTGTGA ACTGGTCATG CGAAAAACCA AACTTGTTAA 900  
 ACGTTGCAGT GACAAGAGCT AAGAAAGAGT TTatGTAATT GGCGACATGC AAAGAATACA 960  
 GATGAaACCA TTTTATGAGA CGATTTTTTAn AGnAAGAAAT GTAAAA 1006  
 15

## (2) INFORMATION FOR SEQ ID NO: 387:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 662 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 387:

CGTTTCATCA AGTnATCGAT CCTAATTTAC AAAATATTCC GGTTAGACTT GAAGAAGGGC 60  
 GTAAAATAAG AAAAGCCTTT AAACCAACTT CAAAAGATAG CGTTATATTA TCAGCAGATT 120  
 30 ATTCTCAAAT TGAATTGCGT GTATTAGCAC ACATTACACA AGATGAGAGT ATGAAAGAAG 180  
 CATTTATCAA CGGCGATGAT ATTCATACAG CAACTGCTAT GAAAGTATTT GGTGTAGAAG 240  
 CTGATCAAGT CGATAGTTTA ATGCGTCGTC AAGCAAAAGC AGTTAACTTT GGAATTGTTT 300  
 35 ATGGGATAAG TGATTATGGT TTAAGTCAAA GTTTAGGTAT TACTCGTAAA AAAGCAAAAG 360  
 CATTCAITGA TGATTATTTA GCTAGTTTCC CAGGTGTAAA ACAATATATG TCTGATATTG 420  
 TAAAAGATGC CAAAGCTTTA GGTTACGTGG AAACATTGCT ACATCGTCGA CGCTATATTG 480  
 CTGATATTAC GAGTCGTAAC TTTAATTTAC GCGGCTTTGC TGAACGTACT GCTATGAATA 540  
 CGCCAATACA GGGCAGTGCT GCAGATATCA TTAACTGGC AATGGTTAAA TTTGCTCAAA 600  
 45 AAATGAAAGA GACAACATAT CAAGCTAAAC TATTATTACA AGTACACGAT GAATTAATTT 660  
 TT 662

## (2) INFORMATION FOR SEQ ID NO: 388:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 669 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 388:

5 TCATCCAAAT TTTGGAAATT CCACATTTTA CATATCGTAA TTTTITAGGA AACTAGTGAA 60  
 TATAACAAAT CCCTCCTCTC ATTTTITAAAA TAGATATATC ACTTCCCCAC TTTTACTTAA 120  
 CTAAACTGCA ACGGTTCCCTA ATACCAAAAT CCTGCCCTCT ATTTTITATCA ATTCAAGCAT 180  
 10 ACTTATTGAA AAATGTTAAC GTTTTCTTGA TAATCATTGT AAGCGCATT TTTTATATAA 240  
 CTAACGTTTG AAATATACTA CAGGAGTGAC ACGTAATGAC TCAAATTACT GAAAAAGAAT 300  
 TAAAAAGAA GTATTTAGAT TTACTATCCC AAAATTTTGA TACTCCAGAA AACTTGCAA 360  
 15 CTGAAATTAT CAATTTAGAA TCAATTTTAG AATTACCTAA AGGTACGGAA CATTTCGTCA 420  
 GCGATTTACA TGGTGAATAT GAAGCTTTCC AACACGTATT ACGCAACGGT TCTGGGAACG 480  
 TGCGAGCGAA AATCAATGAT ATTTTCAAAG AGAGACTTTC AACTAAGGAG CTTAATGACT 540  
 20 TAACTGCTCT TGTCTACTAT CCAGAAGrCm AATTtAAAAT TgATTAAAAG TGATTTCCAA 600  
 AATTgCGGtC mActTAATGt CyGGtATATC ACaACmATCG aACATTTAAT TGAGTTAATT 660  
 25 AAATATTGT 669

## (2) INFORMATION FOR SEQ ID NO: 389:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1249 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 389:

35 CACATGGCTG TTAGAGATAT GAATGGCCAT GCGTTACCTT TAACAAAAGA TGGCAATTTT 60  
 TATCAAACGA ATGTAGATGC AAATGGTGTT AATCATGGTG GTAGTGAAAT GGTGCAAAAT 120  
 40 AAAACAGGTC ATATGAGTCA ACAArGCCAT ATGAATCAGA ACACACATGA ACCAACAGCC 180  
 ACACATGCAA CAAGGTCATA TGCAATCATC AAACCATCAA ATGATGAGTC CAAAAGCAAA 240  
 TATGCATTCA TCAAATCATC AAATGAACCA AAGTAACAAA AAAGTTTTAC CAGCTGCTGG 300  
 45 TGAAAGTATG ACATCAAGTA TTCTTACTGC AAGTATTGCC GCACTACTAT TAGTATCTGG 360  
 GTTATTCTTA GCATTTAGAC GACGTTCAAC AAATAAATAA ACATAATACG ATTAATAATA 420  
 GAAAAATCGT GTGATTATCT GaGGGAGCCT AGGACATAAA TCAATGTCCT AGGctCnCTA 480  
 50 AtGTTATATT GGCAGTAGTT GACTGAATGA AATTGCGCTT GTAACAAGCT TTTCCATTTT 540

CGATTGTCTT ATACGTGTCA GTGTTAATTC AGATATTTCC TGTGGAATAT ACCACTTATT 660  
 AATCATAATT GGATAAGGTG tTTGTGCGTA CAGTGTTTCA ATAATCAGCC AACAAATGTGT 720  
 5 ATCACCAtCA AACACGTGAC TATGATTTTt GAAGTGGGGC GCTTTGGTAA TAGACATTTT 780  
 TAAATCTGAT TGATATGCAT TGCTATAAAT CGTTTGCTCA ACGAATGTCT TCATGTCGTC 840  
 TTCGTTTTGT GTATTCACCT TAAATGTGTC AATGACATTT AACGGTATAA AGGTAAAGCA 900  
 10 AAATGCATCA GCTTGCTTAG AATGATTGTC CTTTTTTTGA TAATAGCGTT CCATTGCAAT 960  
 GACGGCAGAA GGATGGTTTG CAAACAAATG ATTTGTATAT TCACTTTCTA AATCAACACG 1020  
 ATAATTAATT GATGACATAG ATACGCGAGC TAGCAATATT TGATCAAGTG GATGCTTAA 1080  
 15 TTGATCCATA CTTGAAGCGT GTTGGGCATT TGTTTGTGGA ATAACAAAGT GTCCCTTCCC 1140  
 TCTTGACTC TCTACGATGC CATCTTCGGC TAACAATTTt ATAGCTTGGC GCAAAGTCAT 1200  
 20 ACGACTGGAC ATCAAAGCGC GCACAAAGTT CCTTTTCAGT AGGTAATGC 1249

## (2) INFORMATION FOR SEQ ID NO: 390:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1788 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 390:

AATGATGATT CATTCAAAGA AATTAACGCT CGGTATATGC TTGGTATTAC TCATTATATT 60  
 GATTGTAGGT TATGTCATTA TGACAAAAAC AAATGGTCTGA AACGCCCAA TTAAGACAC 120  
 35 ATTTAATCAA ACATTAAAAT TATATCCAAC CAAAATCTC GATGATTTT ACGATAAAGA 180  
 AGGCTTTCGA GATCAAGAAT TTAAAAAGGG TGATAAAGGT ACTTGATAG TTAATTCTGA 240  
 40 AATGGTAATC GAGCCAAAAG GTAAGGATAT GGAAACGAGA GGAATGGTGC TCTATATCAA 300  
 TCGCAATACT AGAACCACAA AAGGGTATTA TTTTATAAGT GAAATGACAG ATGACAGTAA 360  
 CGGCAGACCA AAGGATGATG AAAAAAGGTA TCCGGtAAAA ATGGAACATA ATAAAATCAT 420  
 45 ACCAACGAAG CCACTACCGA ATGACAAGTT AAAAAAGAG ATTGAAAAC TTAAGTTCTT 480  
 TGTACAATAT GGCAACTTTA AAGATATTAA TGATTATAAA GATGGTGATA TTTATATAA 540  
 TCCTAATGTA CCAAGTTATT CGGCAAAATA TCAATTGAAT AATGATGATT ATAATGTCCA 600  
 50 ACAGTTaAgA AAAAGATATG ATATTCCAAC CAAACAAGCG CCGAACTAT TATTGAAAGG 660  
 CGATGGAGAT TTAAAAGGTT CATCCGTAGT TcTAGAAGTC TTGAATTTAC CTTTGTCGAA 720

|    |  |      |
|----|--|------|
|    | AGGTATGAGT CAAACTGAAT ATCAAATAAA ACCTGGTAAT ATAACAAGTA ACTCTGAAGA  | 840  |
|    | AACAAGTTCG ATATCTAAAG TGAGCTGTGA AATATAGGTA GCCATTTCAA AAAATTTAAA  | 900  |
| 5  | GGTGAATTTG ATAATGTAGC TCAAGGAGAT TGGGTAAAA AGGCGAAGAA TGAAGTGGAT   | 960  |
|    | GATATTAGTA AGAAATTAATA AAATATTCAA AGAACGGAAG TTTAATAGCT TATATGATTC | 1020 |
|    | TTGGAGCTAA GACAGCATGC GTTCATTCAT GCCATTATTA ATATAAGCAC CGCAACAAAA  | 1080 |
| 10 | AAGCTTCTAA TGTGATACAG GAACCTCATA TTCCGTATCA TGTTAGAAGC TTTTAATGTC  | 1140 |
|    | TAAAGAACAT CTACATTTTA TCATATTTTC TGACTTATTA AACTTTTATA TAATTAAATA  | 1200 |
|    | TTTCTTAATT TTCCAAAATA GTGATAAATT TGTGAAATAC ATCACAAATC CCTTTATTTA  | 1260 |
| 15 | TTTGAAATT CATGTAATAT TAGACTTGTA AGAAGTTAAT AAATAGAGAG AGACGAGAGA   | 1320 |
|    | GTTTATATAA ATACTATATA AACATTGGAG TGATGATTAT GAGAAAAGAG ATTGAAGCGC  | 1380 |
| 20 | TTATTTTCTC AGACGTAATA GCTATGATAT TTACGTGAAC ACTGGTGTA ATCAAGGATT   | 1440 |
|    | AATTGGTGAC ATCAAAGATG GTTACCTAAC TATTGATTCT ATGCCTTACA TTGATGCTGA  | 1500 |
|    | GCGTTTGTAT CACTTTGCTA TGGAACGTAA ATCGTTAGTC ACTAACTAGT TCTTATTGCC  | 1560 |
| 25 | AATGATTACT ACCCCTAGTC GGCGGCAATT GAAGTGTGAT TGATGTAAT TGCCCTCGTT   | 1620 |
|    | GGTGAGCAAT TGAGGGCAGA CCCCTTTAAT TAAGTAAACC CTAAGTCCCC ACAAATCTGG  | 1680 |
|    | AACGATACTA AAAGCCACGT CCTATATTGG ATGTGGCTTT AGTCAKACTT ATATTATTTT  | 1740 |
| 30 | tAAAACGATT ACCTACAAGA TTTACATATA AAATTCTATC ATGhCTGC               | 1788 |

(2) INFORMATION FOR SEQ ID NO: 391:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2407 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 391:

|    |   |     |
|----|---|-----|
|    | GCAAGTTTAG TTAAACAGAT ATTAAAACCA GATCAATATA CAGATGCAAA TTCTCTATTA | 60  |
| 45 | GAGATTAGTT TGCAAACAGG TATGTTTATT GCAGGTGGAT TATCAGGAAT ATTATATAAA | 120 |
|    | ATAAATGGAT TCACTCTAAT TATAGCGATG ACTATAATGA TGTTTCTAAT CAGCATTTTT | 180 |
|    | ATGTTATTTA GATTGCATGT AGATAAACCA ACTCATTGAG AGGAAGAATC AACAAATAGC | 240 |
| 50 | TTATTGCAAG AATATTTATT AGGATGGAAA TTTTAAAAG ACAACATGAT GATATTTATT  | 300 |
|    | TTTGAGTTA TTTCAATCAT ACCAATGGTG TTTACAATGA TCTTTAATCAT ATCATTACCA | 360 |

|    |   |      |
|----|---|------|
|    | TATGGCATTG GAGGATTATG TGCAGGTTTA ATTTTCAGCTA TTCTTTTCGAA GAAAATCTCA | 480  |
|    | ACTAAAGTAT TGATATTTTT GTTATATTTT ATATTAGTCA TAAATTCAGC ACTATTTATT   | 540  |
| 5  | TGGATAAACT CAGCATTTTA CTTATTCATA GGATCATTTA TACTAGGCTA CTCAATTTCA   | 600  |
|    | TCAATCAGAA TTTATATGAA TACAGCTATA ATGAACACTG TTTCAGATAA ATATGTCGGT   | 660  |
|    | CGCTCATTTA CGATATGGAC GTCAATTTCA TTGTTACTGC AAAGTTTAAT TGCTCCATnT   | 720  |
| 10 | TTAGGAAGAT GGATTAATGA AATTAATGAT AAATTCGGTT TCTATATTAT ACTCATTTTA   | 780  |
|    | TCCTTACTCA TATTTGTaCA CTGCTGCTTG TTAACAAAAC AGACAAAATA AAATATGCAC   | 840  |
|    | ATAAAGAAGA GTGACCGTCA CTCTTCTTTA ACAAGCGACC ATTTATCGaT GGGCTTAGTT   | 900  |
| 15 | CTCTCTGCAC CCACACTTCA CTACTTCACT TTTTCAAATC ATTTTTTATG GTCTTAAATA   | 960  |
|    | AATCAGTGAG ATTTGTTGCT TCGGTAAAGT CTAGAATTAA TATCATTTCT TTAGAACCTG   | 1020 |
|    | GATATGGCGA AACTAATGTA TTATCTTGCA ATTTCTGCTG GGCACTTTTA GTCGCCTTGA   | 1080 |
| 20 | CCAATAATCT ATTATCATAC AAACCACCTA TAACCACGCC ATCATAATAA ATAATATATT   | 1140 |
|    | CTCCCATCAT CTTTCTTGTC TTAACCGCGT TTGAATTCAC ATGATTTAAA AATAAATCAT   | 1200 |
| 25 | GTACATCTTT CTTAGTCGCC ATTGTAATCG CTCCTTCAGT TTTATGTTTA ATCACATTGG   | 1260 |
|    | TATTAATGAT TCATTTCTGTG TTGCTCTTAA TTTTATCTAT AATTATATGC GTAGTTAAAA  | 1320 |
|    | TCAAACCTAT GGAAAAGAAA ATAATGATAA CAATGTTAAG AAATATAGTT ATAAAATTAT   | 1380 |
| 30 | AGTTTGGAAG GTATGCGAAT AGCAGAAAAA TAGGTATCGC AAAAAATAAA TCCCACCAAC   | 1440 |
|    | CTAAACTTTT TAAAGAATGC TTTAAACCTT CCATAATATC ACCTTTATAA ATTTGTCTTT   | 1500 |
|    | GTTATAAGAT AACTAAAAAA TCGCTTTACT GTAAAAGTAG CCAAAGAAAA TTCTGAATCA   | 1560 |
| 35 | TATTCATAAG TAGTGTATCA TTAATAATGA ACAATTTAAT ACTATAATCC TTGATCTTTG   | 1620 |
|    | TATTGATCAA CTTACCACAA CATTTATTTT AGACTACTCT TAGACTTCCC TTTCAAATGG   | 1680 |
|    | TTGCATCTAT TGAAATTCCT TTTGTATAAG TTAGGCTTTT GTGGTAATAT CATCATGCAT   | 1740 |
| 40 | AAAAAATCGA GATACTAATT ATAAAGAGGG TATAAATATA TTATGAAAGA AAATTTTGG    | 1800 |
|    | AGTGAATTAC CACGTCCATT TTTTATTTTG GCGCCAATGG AAGACGTTAC AGATATCGTC   | 1860 |
| 45 | TTTCGACACG TTGTAAGTGA AGCAGCTAGA CCGGATGTGT TTTTCACTGA ATTTACAAAT   | 1920 |
|    | ACTGAAAGCT TTTGCCACCC TGAAGGCATA CATAGTGTGC GCGGACGCTT AACTTTTAGT   | 1980 |
|    | GAAGATGAAC AGCCGATGGT CGCTCATATA TGGGGAGATA AGCCAGAACA GTTCCGTGAA   | 2040 |
| 50 | ACGAGTATTC AATTAGCTAA AATGGGCTTT AAAGGCATAG ACTTAAATAT GGGATGTCCT   | 2100 |
|    | GTAGCAAATG TTGCTAAAAA GGGTAAGGGT TCCGGCTTAA TCTTAAGACC TGACGTTGCT   | 2160 |

GGCTACTATG AAATCGATGA ATGGAAAGAT TGGTTGAAGC ACGTCTTCGA ACAAGACATT 2280  
 GCCAATTTAT CTATTCATCT TCGTACACGT AAAGAAATGA GTAAAGTAGA TGCACATTGG 2340  
 5 GAATTAATCG AAGCTATTAA AAATTTACGT GACGAAATTG CACCAAATAC ATTGTTAACA 2400  
 ATTAACG 2407

(2) INFORMATION FOR SEQ ID NO: 392:

- 10 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 2424 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 392:

20 ATGATGnATG GcncCGCCAA GAAGTTGAAC CAGTCTATTG GCTAGAATTG CTCAAAAAGC 60  
 GAGAcATGTG GTATTCaTAT GTTaGTAGCt ACGCAAAGAC CATCTGTCAA TGTAATTACA 120  
 GGTTTAATTA AAGCCAACAT ACCAACAAGA ATTGCATTTA TGGTATCATC aAGTGtAGAT 180  
 25 TCGAGAACGA TATTAGACAG TGGTGGAGCA GAACGCTTGT TAGGATATGG CGATATGTTA 240  
 TATCTTGGTA GCGGTATGAA TAAACCGATT AGAGTTCAAG GTACATTTGT TTCTGATGAC 300  
 GAAATTGATG ATGTTGTTGA TTTTATCAAA CAACAAAGAG AACCGGACTA TCTATTTGAA 360  
 30 GAAAAAGAAT TGGTGAAAAA AACACAAACA CAATCACAAG ATGaATTATT TGATGaTGTT 420  
 TGTGCATTTA TGGTTAATGA AGGACATATT TCAACATCAT TAATCCAAAG ACATTTCCAA 480  
 ATTGGCTATA ATAGAGCAGC AAGAATTATC GATCAATTAG AGCAACTCGG TTATGTTTCG 540  
 35 AGTGCTAATG GTTCAAACC AAGGGATGTT TATGTTACGG AAGCAGATTT AAATAAAGAA 600  
 TAATTATGAG TAAGGAGTTT TATATAATGA CACACTATCA TTTTGTCCGA ATTAAAGGTT 660  
 CTGGCATGAG TTCATTAGCA CAAATCATGC ATGATTTAGG ACATGAAGTT CAAGGATCGG 720  
 40 ATATTGAGAA CTACGTATTT ACAGAAGTTG CTCTTAGAAA TAAGGGGATA AAAATATTAC 780  
 CATTTGATGC TAATAACATA AAAGAAGATA TGGTAGTtAT ACAAGGTAAT GCATTCGCGA 840  
 GTAGCCaTGA AGAAaTAGTA CGTGcACATC AATTGaAATT AGATGTTGTA AGTTATAATG 900  
 45 ATTTTTTAGG ACAGATTATT GATCAATATA CTTcAGTAGC TGTAActGGT GCACATGGTA 960  
 AAActTCTAC AACAGGTTTA TTATCACATG TTATGAATGG TGATAAAAAG ACTTCATTTT 1020  
 50 TAATTGGTGA TGGCACAGGT ATGGGATTGC CTGAAAGTGA TTATTTcGCT TTTGAGGCAT 1080  
 GTGAATATAG ACGTCACTTT TTAAGTTATA AACCTGATTA CGCAATTATG ACAAATATTG 1140

|    |  |      |
|----|--|------|
|    | TGGCACATAA TGTTAAAAAA GGTATTATTG CTTGGGGTGA TGATGAACAT CTACGTAAAA  | 1260 |
|    | TTGAAGCAGA TGTTCCAATT TATTATTATG GATTTAAAGA TTCGGATGAC ATTTATGCTC  | 1320 |
| 5  | AAAATATTCA AATTACGGAT AAAGGTACTG CTTTGTGATG GTATGTGGAT GGTGAGTTTT  | 1380 |
|    | ATGATCACTT CCTGTCTCCA CAATATGGTG ACCATACAGT TTTAAATGCA TTAGCTGTAA  | 1440 |
|    | TTGCGATTAG TTATTTAGAG AAGCTAGATG TTACAAATAT TAAAGAAGCA TTAGAAACGT  | 1500 |
| 10 | TTGGTGGTGT TAAACGTCGT TTCAATGAAA CTACAATTGC AAATCAAGTT ATTGTAGATG  | 1560 |
|    | ATTATGCACA CCATCCAAGA GAAATTAGTG CTACAATTGA AACAGCACGA AAGAAATATC  | 1620 |
| 15 | CACATAAAGA AGTTGTTGCA GTATTTCAAC CACACACTTT CTCTAGAACA CAGGCATTTT  | 1680 |
|    | TAAATGAATT TGCAGAAAGT TTAAGTAAAG CAGATCGTGT ATTCTTATGT GAAATTTTTG  | 1740 |
|    | GATCAATTAG AGAAAATACT GGCGCATTAA CGATACAAGA TTTAATTGAT AAAATTGAAG  | 1800 |
| 20 | GTGCATCGTT AATTAATGAA GATTCTATTA ATGTATTAGA ACAATTTGAT AATGCTGTTA  | 1860 |
|    | TTTTATTTAT GGGTGCAGGT GATATTCAA AATTACAAAA TGCATATTTA GATAAATTAG   | 1920 |
|    | GCATGAAAAA TCGGTTTTAA TATGTTTATA ATAGAGTAGT ATGGGTATTT ATTATTAATG  | 1980 |
| 25 | ACATTATTAC ATGTTAATTA GGAGGCGTTT TTAATGGATT GGATTTTACC AATTGCTGGA  | 2040 |
|    | ATTATCGCTG CGATTGCATT CTTAATTTTA TGTATCGGTA TCGTAGCTGT ATTAAATTCT  | 2100 |
|    | GTTAAGaAAA ACTTAGATTA TGTTGCAAAA AACTTGACG GTGTAGAAGG TCAAGTTCAA   | 2160 |
| 30 | GGTATTACTC GTGAAACAAC AGATTTACTT CATAAAGTAA ACCGTTTAAAC TGAGGATATC | 2220 |
|    | CAAGGTAAAG TAGATCGTTT AACTCAGTT GTAGATGCTG TTAAAGGTAT CGGTGACTCA   | 2280 |
|    | GTACAAACGT TAAACAGCTC TGTAGATCGT GTAACAAATT CAATTACACA TAATATTTCT  | 2340 |
| 35 | CAAAATGAAG ATAAAACTC ACAAGTTGTT CAATGGTCAA ATGTTGCAAT GGAAATTGCA   | 2400 |
|    | GACAAATGGC AAAATAGACA CTAC   | 2424 |

## (2) INFORMATION FOR SEQ ID NO: 393:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 738 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 393:

|    |   |     |
|----|---|-----|
| 50 | CnATAATATT CnTCAAnCCT TTAAATAGAG GAATAGACTG CCGACAGAGT CCGAGACTTT | 60  |
|    | GTGGGTAGTT TTTTGTAGTT TGATAACGGA AGTTAGAGGC TCTCTGTCAA ATTGGGCAGA | 120 |

|    |   |     |
|----|---|-----|
|    | AGTGTAAGT TTTCAACATA ATACTATTAG TTCGGTCATG TATCGGACTG ATGGAAAAGC  | 240 |
|    | GTTTCACTTT TAATGACTCA TTAAGAACGG CCTGAAAATG TTTGGCGTAT TAAGTGCAAT | 300 |
| 5  | GATAGTTTTG ACATTTAGTT TCTAATTGGT CATTACTGCC GAGCAAATCT AGTAGAGTAA | 360 |
|    | TCATGTAAAT CTTTAATGTG CCATTTGATT CACTAGCGGT GTTAATAACT ACGGAAATTG | 420 |
|    | CATTTCCGAC TGAAATTTTT GAAAAATATC AACGTACGCT ACAAATAAAA TTTTAACTG  | 480 |
| 10 | TTATAAATGT GTCTCAATTT CATATGTTCA TCGACGATAT GAAGCGTATT ATGGTAAAT  | 540 |
|    | GAAGAAATAA TAACTTGTT AATAAATAAA ACATCACGAT TTGACTAAAG CACTTTATTA  | 600 |
|    | TTGTGTAGAT AATAGTTTTT TAACGAAATA AAAATGGCGA CTGGTTTTAA TAAATCAGCT | 660 |
| 15 | AATGAATCAC TACACCTATA AGTATGAATA TAGTGATTAG AATGCTTTGT ATAGTTGGAT | 720 |
|    | TTTGCAAAAT TGATGTTA   | 738 |

## (2) INFORMATION FOR SEQ ID NO: 394:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1270 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 394:

|    |   |     |
|----|---|-----|
| 30 | AAAAGTTGTA ATTAAAAGTG GGATTTTACT TAAGnAGAA GGAAACTATT TATATGACTA  | 60  |
|    | ATAAAAGAGn AGATGTCCGC AATATAGCAA TTATTGCTCA CGTTGACCAT GGTAACAA   | 120 |
|    | CTTTAGTAGA TGAGTTGTTA AAACAATCTG GTATATTCAG AGAAAATGAA CATGTCGATG | 180 |
| 35 | AACGTGCAAT GGACTCTAAC GATATCGAAA GAGAGCGTGG AATTACGATT CTAGCCAAAA | 240 |
|    | ATACGGCTGT TGATTATAAA GGTACACGTA TTAATATTTT GGATACACCA GGACATGCAG | 300 |
| 40 | ACTTTGGTGG AGAAGTAGAA CGTATTATGA AAATGGTTGA TGGGGTTGTC TTAGTAGTAG | 360 |
|    | ATGCGTATGA AGGTACAATG CCTCAAACAC GTTTTGTACT TAAAAAGCG CTAGAACAA   | 420 |
|    | ACCTGAAACC TGTTGTTGTT GTTAATAAAA TTGATAAACC ATCAGCACGT CCAGAGGGTG | 480 |
| 45 | TTGTAGATGA AGTTTTAGAT TTATTTATTG AATTAGAAGC AAACGnTGAA CAATTAGAAT | 540 |
|    | TCCCTGTTGT TTATGCTTCA GCAGTAAATG GTACAGCTAG CTTAGATCCT GAAAAGCAAG | 600 |
|    | ATGATAATTT ACAATCATTA TATGAAACAA TTATTGATTc ATGTACCAGC TCCAATTGAT | 660 |
| 50 | AACAGTGATG AGCCCATTAC AATTTCCAAG TAGCATTGTT GGACTACAAT GATTATGTTG | 720 |
|    | GACGTATTGG TATTGGTCGT GTATTCAGAG GTAAAATGCG TGTCGGAGAT AATGTATCAC | 780 |

|    |   |      |
|----|---|------|
|    | GATTAAAACG TTTAGAAATT GAAGAAGCAC AAGCTGGAGA TTTAATTGCT GTTTCAGGTA | 900  |
|    | TGGAAGACAT TAATGTTGGT GAAaCTGTAA CACCACATGA CCATCAAGAA GCATTGCCAG | 960  |
| 5  | TTCTACGTAT TGATGAGCCT ACTCTTGAAA TGACATTTAA AGTTAACAAT TCTCCATTTG | 1020 |
|    | CTGGCCGTGA AGGTGACTTT GTAACAGCAC GTCAAATTCA AGAACGTTTA AATCAACAAT | 1080 |
|    | TAGAAACAGA TGTATCTTTG AAAGTTTCTA ACACAGATTC TCCAGATACA TGGGTAGTTG | 1140 |
| 10 | CTGGTCGCGG TGAATTGCAT TTATCAATCC TTATTGAAAA TATGCGTCGT GAAGGTTATG | 1200 |
|    | AATTACAAGT TTCAAAACCA CAAGTAATTA TTAAAGAAAT AGATGGTGTA ATGTGTGAAC | 1260 |
| 15 | CATTTGAACG  | 1270 |

## (2) INFORMATION FOR SEQ ID NO: 395:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1365 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 395:

|    |  |     |
|----|--|-----|
|    | AAGACCAGGA GAACAmGTAA AACAAATATAC AGTTGaAATC GCTCGTAAAT TAATGGAATT | 60  |
|    | TGATATAAAA TGCTCGTGAT TGCTTGTAAG TACGCAACTG CTGTnGCTTT AGAATATTTA  | 120 |
| 30 | CAAAAGACCT TATCAATCCC CAGTGATTGG CGTAATTGAC CAGGTGCTAG AaCAGCAATA  | 180 |
|    | ATGACTACTA GAAATCAAAA TGTATTAGTA CTAGGAACGG AAGGCACAAT TAAATCTGAA  | 240 |
|    | GCATATCGTA CGCATATTAA ACGTATCAAT CCACATGTAG AGGTACATGg CGTTGCCTGT  | 300 |
| 35 | CCAGGTTTTG TGCCACTTGT AGAACAAATG AGATATAGTG ATCCAACAAT TACAAGCATT  | 360 |
|    | GTCATTCATC AAACACTGAA ACGTTGGCGT AATAGTGAGT CTGATACTGT CATTTTAGGA  | 420 |
| 40 | TGTACCCACT ATCCATTGCT CTATAAACCT ATCTATGATT ATTTTGGTGG TAAAAAGACA  | 480 |
|    | GTGATTTTCGT CTGGATTAGA AACGGCTCGT GAAGTTAGTG CATTGCTAAC ATTTAGTAAT | 540 |
|    | GAACATGCAA GTTATACTGA ACATCCAGAT CATCGATTTT TTGCAACAGG TGATCCTACT  | 600 |
| 45 | CACATTACTA ACATTATCAA AGAGTGGTTA AATTTATCTG TCAATGTGGA ACGTATATCA  | 660 |
|    | GTGAATGACT AGGAGGATTT TTAATGAAAG AGATTGTTAT TGCATCGAAT AATCAAGGGA  | 720 |
|    | AAATAAATGA CTTTAAAGTA ATATTTCCAG ATTACCACGT AATAGGTATT TCAGAACTAA  | 780 |
| 50 | TACCAGATTT TGATGTGGAA GAAACAGGAT CAACATTTGA AGAAAATGCT ATATTAAAAT  | 840 |
|    | CAGAAGCTGC TGCAAAAGCA TTGAATAAAA CGGTCATAGC TGATGACAGT GGACTIONAAG | 900 |

|    |   |      |
|----|---|------|
|    | GCGATGAAGC AAATATTGAA AAATTATTAA ATAAGCTTGG TAATACAACT GATCGTCGTG | 1020 |
|    | CGCAATTtGT TTGTGTCATA AGTATGAGTG GCCCTGATAT GGAAACAAAA GTATTTAAAG | 1080 |
| 5  | GTACTGTTTC AGGTGAAATT GCAGATGGAA AATATGGCGA AAATGGTTTC GGATATGATC | 1140 |
|    | CGATATTTTA TGTACCGAAA TTAGATAAAA CCATGGCTCA ACTTTCAAAA GAACAAAAAG | 1200 |
|    | GGCAAATTAG TCATAGACGA AATGCGATTA ATTTACTTCA AGCTTTTCTT GAAGGTGATA | 1260 |
| 10 | AAAATGTCTA AATGGATTAT TGTGAGTGAT AACCATACTG AATCAGGCGT TTTATATCAA | 1320 |
|    | ATTTATGAAA TGCACCCAGA TGCAGATGTA TATTTACATT TAGGA                 | 1365 |

(2) INFORMATION FOR SEQ ID NO: 396:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1383 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 396:

|    |  |     |
|----|--|-----|
| 25 | AATTCCTGGT GCAATAATAA ATAGGATGAA AAAGATTTCGG AAAATATGAT AACTCGTAAT | 60  |
|    | CATAGCAACA TCGGCACCAG TAGCTAATGC AACTAAAAC ATCTGATTAA CCCCTCCTGG   | 120 |
|    | TGCTGCACCA AGaACAATT CATTAATAGG ATTATTATCA AAGAAATGTA TGATATAAAC   | 180 |
| 30 | CATGATTAGC GCACCAATTA TCAACATAAT ATTTTGAATT GTAATTGCGA TTGCTAGTCT  | 240 |
|    | ACCTTTTAAA TCTGACAATA AATGCGCAAT TTGAACTCCA ATTCTAATCA TATATATTAG  | 300 |
|    | TTGTGCCATG TTCAACAACC AATGATCTAG TGTAATGTT AAACCTGTAG AAAAATTCCA   | 360 |
| 35 | AACAATTAAT ACAATGAGTG GTGCTAATAA TTGAAATGTT GGAAACTTTA TTTTAGACAT  | 420 |
|    | AATTAGATAA ACTATAAAGA TAGCTATCGC TAAAATAACT ATTTGCCCTA TGTTTAATAC  | 480 |
|    | TTGTGATAAA GGCAAGACTT TTGTAACTT TCCATTGCA TGCATGTTAC CATCATGAAA    | 540 |
| 40 | AAAATATGAA ATGAACGGTA CTAaACAAC AACAAATATA ATTCGTGATG TTTGCGTTAA   | 600 |
|    | GCTAACAAC T AACAAATTAG CACGTTTGTC TTGTTGAGCC ATGACCAGCA TTTGTGTTAG | 660 |
|    | TGCTCCTGGT ATAACACTTA AAATAGCTGT TTCTGTATTA ATACGTGCAA TTTTTTTAAA  | 720 |
| 45 | AACAAATGCC ATTACTATTG CAATTAATAA TATCGAAATA GATACAACAA TAATCGAAAG  | 780 |
|    | CCAATTGTTT TTAATATCCA TAACGACATT TTTGTAAC GTTGATCCGA TTTGCACACC    | 840 |
| 50 | TAATAGTACA ATACCTAATT CACTAAGTAA GAATGGCCAT TTAATATCAA GTTTGAAAAC  | 900 |
|    | TTTACACAA ATGATTGATG CGATAATAGG ACCAAACATA AATGGAAGTA ATACGTGCGA   | 960 |

TATCATTGCC ATGTTTTCCA CTCTTTTCAA TAAAAAATAA AATGACTAAA TTGCTGCTTG 1080  
 AGCTTCACGT TTGTTAAGAT AACAAATATCC GCTAGCAGTT tTGACTACAA AGCATATATG 1140  
 5 GaCTTTCACCT ATCAAGTCGC CGCCCATGCC TTATATACAT TTAAAAngAG CCTGAACAAA 1200  
 GTTCAGGCTC TCAATTTGTC CGTATATTTA TTTTACAATA CGACTTAAAG CCGTATCAAA 1260  
 TGCTTGAATC GTTTTTCAAT ATCTTCTTTC GTGTGTGCCG TAGATAAGAA TGTACCTTCA 1320  
 10 AATTGAGATG GnGGnAAAAA CACACCTCTT TGnCATTTCTC GGTACATTTT TGCAATAATT 1380  
 TCC 1383

## (2) INFORMATION FOR SEQ ID NO: 397:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 415 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 397:

TCCACTAAnA TGATTACAAT TGCATTAGTT TGGTGGAGTG CATTTACAAT CTTAACGGGT 60  
 ATGATTAAAGA ACCACGGTTT AATTaTTTAG TGAGATTCTT ATTTGGTGTA GGTGAGGCGC 120  
 CAATGTACCC TTCTAATGCT GTGTTTAATT CATTTTGGTT CTCTAAAAAT GAAAAAGGTA 180  
 30 GAGCATCAAG TGCATTATTA GCAGGATCAT ATTTCCGACC TGTATTAGCA CCAATAGTTA 240  
 CAATTGCTAT TGTTAACGCA TTAACTGGC AAGCAGTATT TTACATTTTTT GGTGCAGTAG 300  
 GTATTTTAAT GGckGTATtA TGGGCGATTA TTGCCAAAGA CTTACCTGaG CrACATAGwa 360  
 35 TGGTTAATGA AGCGGAGAAA CGTTTCATTA TGGAAAATCG TGATATCGTA GCTAC 415

## (2) INFORMATION FOR SEQ ID NO: 398:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1141 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 398:

TTTTAGaTaA aTyCAATTnT CyATaCTaAA TgATTnTCTT ATTaCGTCAA TTcGCCTTTT 60  
 aTTTTATCGT AATCTTTCCa CTGCAAAGCT AAAGCTTCTC CTATTCTAAG ACCAGAATAA 120  
 50 AATAACAGTC TAGTTAGCTG ACGAGAAGTA TCATTTGTGA TTTGTTCTAC TTTTTCATCA 180

AATGTGGGGT CGTATAAGAG CTTGTAATGC TTTTGGCGT AATTGATAAC TGCTTTAAAA 300  
 CCTGCCCCA CAGATCGTGC ATAGTCAACA GAAAGACCTG CATCGTTTAA CAAATAATTC 360  
 5 CTGAAAGCAG TACATTGCGT AGTAGTGATT TTGCCAATAG GGATATTTCC GAACCTTTCT 420  
 TTTATGTGAG TATTATATTC TGTAGTTCGC TTTTCTATTG AGCGTGCAGA AAGATTTTCA 480  
 TTTTTTAAAC GATCAAAAAA TATATATTCA AAGGGTTGAT TGTCCGAGTA TCCATATTTA 540  
 10 ACATTTTGTA TAAATTCGCT TTCAGCTAGT TTGGCATCTT TCTTACGTC AAACCCACGC 600  
 TTCATTTTTT GTTTGTTATT ACCGTATACA TCTTTATATC TAATGGAAAA ATACCATTTA 660  
 CCTGTATTAT CATCCTTATA TACTGGCATT TTGCTTCTCC CTCCTCAAAA TTGGCAAAAA 720  
 15 ATAATAAGGG TAGGCGGGCT ACCCGAAATT TAGTACTAGG TACTAAATGT GATATAATAA 780  
 AATAAAAAGT AGGTGATGTT ATGACATTTA AAAACAATCA TAATTTCAAT GAATTAGTTT 840  
 TAACGAATGA AGACATTAGA ATTTTAAAAA ATGTCTTAGA AGATGCAGTC AGTGTTTATG 900  
 20 ATGAATATTC GGTATGTAAT GAAGAATCCG ATTTTGCTTA CTGTTTATTA AGAGACTTAT 960  
 ATACATTAGA CAGCTTAGCT ATTTGCTCAA ATAATGTTTG AATTATCGAA TTGTACTCTT 1020  
 CGATTTTAAT ACCATGCATA ATAGAGTTTC TGTGTTCAAT AGCAGCTTTG ACTGAATGtK 1080  
 25 TTAAATGTTT TTCTATTAAA TCGTTGTTTt CCAtTTCGtK TAAaAATGtT CyTATATTCC 1140  
 T 1141

(2) INFORMATION FOR SEQ ID NO: 399:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 706 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 35 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 399:

40 ACTGTGGTAG GTTTTTTATT TTGAAGTATT AATCATAACA GACTAATAAT CATGAGGTAA 60  
 CTAATAACAC ATATTTAACT TGTATTCTTA AACTGGTATA ATAAATTTAT GTTGAAATGA 120  
 ATATTGTATG ACAGGTATT CACTTTTATT AAAAGGTAAA ATTAAATAAA GGTTTTATAG 180  
 45 AACGTATTTA AATATATGAG GAGTAAACAA ATGGCTGATA GAACGAATAA AGAAATTAAA 240  
 ACAGGACGCT TTATTGCAAC TGCATCAATC GTATTCTCAA TATTATTGAT TATTCATTAC 300  
 TTTGTTTCGT TGGATAATGC GACTGCCAAA GCATTACTTA ATTTAACGAA TCAAAACACT 360  
 50 TCAGATAAAG CGATTGATTA CATTTTAAAC AGCTTTAGAT TCACTGGTAT TATGTATATT 420

ATGTTTGCAG TTTATGTATC AAATAGTTTG TTTACGTTGA TTAATTTATC AATCACAATT 540  
 CAAGCAATAA AAGCTGCACA CGGTGCGTAC TTAACATTGC CAATTTTAAT TGTTATTATA 600  
 5 GGTTCGGTTG CATTAGCGAT TTATATGCTT GTTGTCTTCTA TCAAACGTAA AAGTACATTT 660  
 AATCGCTAGA AAATTGATTT TAACAATAAA AATATGAAAA AAAAnn 706

(2) INFORMATION FOR SEQ ID NO: 400:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1187 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 400:

20 ACACAATCTG AAGATTCACG TTGTGGTGCT GGACATGATC GAAAAATTAG AGCTGAACAA 60  
 ATGAnAGAAA TCAGTGATTT TGTAAAAAG AAAAATATCC CTAAAGATGA AACGGTATAT 120  
 ATAGGTGGCG ACCTTAATGT CAATAAAGGC ACTCCAGAGT TCAAAGATAT GCTTAAGAAC 180  
 25 TTGAATGTAA ATGATGTTCT ATATGCAGGT CATAATAGCA CATGGGACCC TCAATCAAAT 240  
 TCAATTGCGA AATATAATTA CCCTAATGGT AAACCAGAAC ATTTAGACTA TATATTTACA 300  
 GATAAAGATC ATAAACAACC AAAACAATTA GTCAATGAAG TTGTGACTGA AAAACCTAAG 360  
 30 CCATGGGATG TATATGCGTT CCCATATTaY aCGTTTACAA TGATTTTTCa GATCATTACC 420  
 CAATCAAAGC CTATAGTAAA TAGTGCTCAA CTAATAATA ACTTGCTtCG TTCTAAAAGG 480  
 ACGAAGCGAG TTATATTGTT AAAATTTGAA TTGACTTACA TTTTAATAAA ATCATCTTAA 540  
 35 CAACTTTAAT TTTTCaTTAA TACaAGTCTT TACTCTACAC TCAAACnAGA TTCATACACT 600  
 GCACGTCATA ATAAATCTAT CTATTCAAAT ATAAATAAAA GTTACCTACT ACATTCTATG 660  
 40 TAGCAGGCAA CTTTTATTAC TTATTTCTTT TCATTATCAT TAAGTACTTT TACAAACTTC 720  
 ACATTATGTG TCTTCCAATC AACTTCATAT AATGCTGATA ATTTTCTTC TTTTATCT 780  
 ACATGGTTTT CACCAGACCA ATAGCCCCAG AAACCATGGC GATTCCAATC TATTTTAAAC 840  
 45 TCATCCATTG ATCTTTTATA ATGAACAACA AATTGTGATT TACCTTTGTC TTTTATCA 900  
 TGTGACATAA CAGCTAAAAA TTCTGGATTA AACCCTTCAG ACACAGTTAC AGGCATTTTG 960  
 TCTTTAGGTG TGAAATTATC TTTGCCCCAT AAATTTCCAT TTCGTGTTAA AGAAAAAATT 1020  
 50 TCACTTTTAG TTCTATTATC ACTATCATTa GTTAATTGTC TCGTATGGTC ATGTCCCATA 1080  
 TTATTTATCA AATGTGCTTC TACTTTCCAA CCTACACCTT TATGTGACGT AGATTGATCA 1140

## (2) INFORMATION FOR SEQ ID NO: 401:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 847 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 401:

CCAGAATTAT TTTTTCAAAA AGGACAATTT AACAAATGTCG ATAACGTTAT CATAAGCAAA 60  
 CCGATGAAAG GGACAATGCC TAGAGGTAAA ACGGAaGCTG AAGATCAACA GTATTATAAA 120  
 ACATTGCAAA CTTCTTCGAA AGATCGTGCA GAAAATGTCA TGATTGTTGA TTTACTAAGA 180  
 AACGATATAG GGAGAATATC ACAGAGTGGC TCAATTAAGG TGTATAAACT ATTTTTTATT 240  
 GAGGCATATA AACTGTATT TCAAATGACT TCGATGGTAA GTGGAACTTT AAAAAATAAT 300  
 ACAGACTTAA CTCAAATTTT AACATCGTTA TTTCCTTGTG GTTCGATTAC AGGTGCACCG 360  
 AACTGAATA CAATGAAATA TATTAAACAA TTAGAAAGTT CACCTCGTGG TATATACTGC 420  
 GGACAATTGG ACTATTACTT CCAACTGAAG ATGATAAAAT GATTTTAAAT ATTCCGATTC 480  
 GCACTATTGA GTATAAATAT GGACAAGCGA TTTATGGAGT CGGAGCAGGT ATTACAATTG 540  
 ATTCTAAGCC AAAAGATGAA GTGAATGAAT TTTACGCAAA AACCAAGATT TTGGAGATGT 600  
 TATAATGCAA TTATTTGAAA CAATGAAAAT TGATAATGGA CATATCCCTA GACTTACTTA 660  
 TCATACTAAT CGCATAAAAT GTTCTTCTGa GCGATTAAAC TTAAATTTG ATGAACATGC 720  
 ATGGCGAAAT GAATTAAACG ATGTAACAAC AAAGTATCAC AGTGGTCAAT ATAGACTTAA 780  
 AATCGTATTA AATGCTGAAA GCAAATTTGA AACGATAGTG TCACCTTTAC CTGAGAAAAG 840  
 TAGTTTT 847

## (2) INFORMATION FOR SEQ ID NO: 402:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 740 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 402:

TGAAGATGAA GCAGAAGCAG AAGACAATCT GCTACGAGTA CAATCGAAGA AAGAAGAAGT 60  
 TGAAGATGAA GCAGAAGCAG AAGACAATCT GCTACGAGTA CAATCGAAGA AAGAAGAAGT 120

GTTAAACAGT TAAAAGATAA AGTGTCTAAA ATTGTGATTC AAATGAATAC ATTTGAAGAT 240  
 GAAGCAAATG ATGTTCTTGT TAATGCTGTT TATGCAGAGA AATTAATTCA ATATGGAAAT 300  
 5 AGATATCGTA AGGACTATAG CAATGTTGAT AAGAGCTTAA ATGAAGCTGA ACGATTATTT 360  
 AAAAATAATC GCTATAAGCg TGCGATTGAA ATTGCAGAGC AAGCTCTTGA AAGTGTGAG 420  
 CCAGGTGTTA CTAAACATAT TGAAGAAGAA GTTATTAAGC AATAGAAACT AGTATGTAGT 480  
 10 TATACTTAAA TAATATGAGC ACTCTGTCAA ATTGGACTGA TGAGTTTAAT AATTGAAGTT 540  
 AGCCAACGAT ACGTTGTCTA GCTTCTTTTT TATATGGATA AATGaAAGGG ACAATAAATA 600  
 TAAATAGCAA TTGTTTAAAG ATAAACGTAA TCAAATGTGT TGTTTTAATT AATATAAGTA 660  
 15 GTGAAAAAAG CATAATCACA CAGCTGTTTA AATAGAGTGA AATAGTCTAA TTCTTATTTA 720  
 ATAAGTAGAA ATAAGATTAT 740

(2) INFORMATION FOR SEQ ID NO: 403:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 630 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 403:

30 ATGCCAATAA TTAAACCATG TAATAAATAT ACGTATAGCG TACGACTACC AATATAAGTA 60  
 TATAATTTTT TCTTTGTTGA CATTAAATTT AGAAACGCAG TCATTGCGAT TAATATAATT 120  
 35 CCATATAATA TAAGTCGTTT AAAAGGACTG AATATACTCT GTCCTTCATT TTCAAGTGAA 180  
 GTATATGGTG AACTTCCCAA TAACCAATCT GCATTGATAG GATGAATCAC GTAAACGATA 240  
 AAAAACAAAA TAAAGGTAAT GATAGATACT GGTATTAGTT TTTTATTTTT AAAAAATAGCC 300  
 40 GTATGTTTTT TGGTGAAAAT GTAACCTAGA TAAAATATTG GGAAAAATAC GATTGTCCTT 360  
 GAAATGCTTA AGTAGCTATC GATGTTATCT GAAAAACCTG CTCCAATAGA TATAATAATT 420  
 GAAACTGATA GCACTTTATA TGGATTAAAT CTTCTAACTA TTAATAAAAT GACATGAAAG 480  
 45 AAAAAATAGCG TGATCAAAAA CCATAACGCA AATACTGGGT TAAAAGGATC AAGTTGTAAT 540  
 TCGTCACTTT TACCTGTAA GAAATAATAA ATTGAAAAGA ATGCAAAAAA TATCATATAA 600  
 GGTACTATCA AACGTTTTGA AATTTTTTCT 630

(2) INFORMATION FOR SEQ ID NO: 404:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6254 base pairs

(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 404:

|    |   |      |
|----|---|------|
| 5  | ATTTAAACGT TCAGTTTCTA AAAGTGAAC AATCCAAGAA GTACGTAAAC GTGAATTTTA  | 60   |
| 10 | CGAAAAACCA AGCGTAAAC GTAAAAAGAA ATCAGAAGCT GCACGTAAAC GTAAATTCAA  | 120  |
|    | ATAATTAATA CCTCTGTTGA CTCCCTCAAC ACGAATATTA ATTATATAAA ACAACATCA  | 180  |
|    | CAAGTTAGTG TCTGACACTA ATATGTGATG TTTTTTGTG GTCAATTTTT AATTAAAAA   | 240  |
| 15 | AGTTATATAG TTTATAAATA ATCAAATTGA TATTCTATAG GTTCTTATAA CTATAAAGTA | 300  |
|    | TATTCAATTT CATGTATAAT TAATGTGAGG GCGAGGTGAA ATTGTGAGTT ATAATAATTT | 360  |
|    | TTTACAAATG ACAACTATCT TGGAATCAAC GGCTGGAGAT ACTTGGGTG AACAAAGTTAG | 420  |
| 20 | CAATATAATT GTTCAACCTA TTTTACGTT AATATTAAAC TGTTTGACAT TCTTAGGATT  | 480  |
|    | TGTATATCAA CTTTACTCTA AAAAAATCAA TGCAGCTGGT ATTATCGCCA CATTATCATT | 540  |
|    | ACTTATTTTA TTTTGGGAT TTCTAATCCA AGGAAATGTC AATATGCATT CTATCTTAAT  | 600  |
| 25 | ATTCTCAATT GGCGTTATAT TAGTTGTAAT TGAATTATTT GTAGTTGGTG CAGTAATTGG | 660  |
|    | TATTATTGGC ATGATACTGA TAACTATAAG CATAACAACG CTCGGTGATA ATTTGCTATT | 720  |
|    | TATGCTTGCG AATGTTATCG TTGCCTTGAT TTTAACGATT GTAGAATGGG TGATATTAGT | 780  |
| 30 | GAAGATTTTC AACAGAAAGA TTCCGTTTTT GGATAAAGTT ATCTTAAAAG ATTCAACTAA | 840  |
|    | TTCTGAGTCA GGTTACAATT CTCATGATAA CCGCTCGCAC CTCGTAGGAA AGACTGCTCA | 900  |
| 35 | AACAGTTACA GATCTTCGAC CTGCAGGGAT TATTTTTTGT GAAAATGAAC GTATTGATGC | 960  |
|    | TGTTTCAGAT GGCAACTTTA TTTTGCGCAA TAAACGGTA AAAATCCTTG AAGTTGAAGG  | 1020 |
|    | AACAAGAGTA GTTGTGAGGG AAGTAGATTA ATTAAAAGGA GCGATACCAT GTTTAGTTTA | 1080 |
| 40 | AGTTTATCG TAATAGCAGT TATTATAGTA GTTGCATTAC TTATTTTATT CTCATTTGTA  | 1140 |
|    | CCCATGGGT TATGGATTTT AGCGTTAGCA GCTGGCGTTC ATGTTGGTAT AGGTACATTG  | 1200 |
|    | GTTGGTATGC GTTTACGTCG TGTATCTCCA AGAAAAGTTA TAGCGCCATT AATTAAAGCG | 1260 |
| 45 | CACAAAGCAG GACTAGCATT AACAAACAAC CAATTAGAAT CGCATTATCT AGCAGGAGGA | 1320 |
|    | AATGTTGACA GAGTTGTTGA CGCTAATATT GCTGCACAAC GTgctGACAT TGATCTTCCT | 1380 |
|    | TTCGAACGTG CTGCTGCAAT TGaCCTTGCA GGACGTGACG TATTAGAAGC GGTTCAAATG | 1440 |
| 50 | TCTGTTAATC CTAAAGTCAT TGAAACACCA TTTATCGCAG GTGTAGCAAT GaACGGTATT | 1500 |
|    |   | 1560 |

|    |            |             |            |            |             |            |      |
|----|------------|-------------|------------|------------|-------------|------------|------|
|    | AGTAAGCATC | ATACAGAAGT  | ACTTGAAAAC | CCAGATAATA | TTTCTAAAAC  | AGTTTTAAGC | 1680 |
|    | AAAGGTTTAG | ATTGAGGTAC  | TGCATTTGAA | ATTTTATCAA | TTGATATTGC  | TGACGTTGAT | 1740 |
| 5  | ATTAGTAAAA | ATATTGGTGC  | AGACTTACaA | ACTGAACAAG | CATTAGCAGA  | CAAAAATATT | 1800 |
|    | GCACAAGCAA | AAGCTGAAGA  | ACGTAGAGCT | ATGGCTGTAG | CAACTGAGCA  | AGAAATGAAA | 1860 |
| 10 | GCGCGTGTAC | AAGAAATGCA  | TGCTAAAGTA | GTTGAAGCCG | AATCTGAAGT  | ACCATTAGCT | 1920 |
|    | ATGGCTGAAG | CATTACGTTT  | AGGTAATATC | AGTGTAAAG  | ATTATTATAA  | TTTGAAAAAT | 1980 |
|    | ATCGAAGCTG | ATACAGGCAT  | GAGAAATGCA | ATTAATAAAC | GAAGTATCA   | AAGTGATGAT | 2040 |
| 15 | GAGTCACCTG | AACATTAAGT  | CGAGAGGTGA | TTAAATGAGT | GTCGGTATTC  | TAATTTTTGT | 2100 |
|    | CATATCAGTG | ATCATTTCTA  | TCATTACTAC | TATGCGCGAA | AATAGTCATA  | AAGATAGACA | 2160 |
|    | AAATCAAAAG | CCACCTCAAA  | AAACATCTAC | CGATAATGAA | CCAAAAAAG   | GTGGCTTTTT | 2220 |
| 20 | TGAAGAAATT | GAGCGAACGT  | TTAAAGAAAT | AAGTGAAGAA | TTAAATGAAG  | AAGAAAAGAA | 2280 |
|    | ATCATCGAAA | CGAAAAATATG | ATGATACGTT | ACCACCTTTA | TTCGATGAAC  | TTCCAAAGGA | 2340 |
|    | AGAGCCTAAA | TCGAAACCTG  | TTGTAGAACC | TATGGCACCT | AAAAACAAC   | AAGAAACAAA | 2400 |
| 25 | ACCGATGACA | GAGAAACCAA  | TCACAGTGCC | TAAAGCAGAA | CCGGTGGAGC  | AGAAACATAG | 2460 |
|    | ACCTTCTAGA | CAAGATAATT  | CTGACGAAAT | TAGACGTCAA | TTAGAAAAAT  | CACTTAGAGA | 2520 |
|    | TGATATTAAA | ACGATTCGTA  | CTGACATTGA | TAGAGAAAAA | GAAAAGCAAA  | TTGCTAAAAT | 2580 |
| 30 | GGAAAAACGT | GCTAGAGATA  | TTATTGAGGA | TAAATACTTA | TCTGAACGTA  | CAAAACGTTT | 2640 |
|    | GAAATTAAAG | CAGCTGCTTA  | ATTCTCAAAA | TGTCGAAAAA | GATTTGACTA  | AATCAGCGTT | 2700 |
| 35 | CCAATTTGAT | AAAGATGAAG  | TAATCAATGG | TATGATATGG | TCAGAAATTT  | TAGCTAAACC | 2760 |
|    | AAAACAATTA | TAAAATTTTT  | TGAAAACAAG | CACTATCGTA | ATGGTAGTTG  | CTTGTTTTTT | 2820 |
|    | TACGTTAAGG | AAAAATAAAA  | AACAAAGAGA | ATTTTTCGAG | AAATATTAGT  | TATTTAAATT | 2880 |
| 40 | ACAGCAAAAA | ATTGATTAGT  | CTAAAATTGA | ATCTGCTTTT | ATGACAAGGT  | GAAAAGTATA | 2940 |
|    | AATGATTATT | TTAAATTAAA  | GAAAAATGAG | TAAGTCAATG | CAAAGATGTT  | TAAATCAATC | 3000 |
|    | AATTGCATGA | TATAATTAAG  | TAGATATTAA | AGCATCATAG | AATGAATATA  | AATGATATAT | 3060 |
| 45 | GAAAAGGAGC | GCGTGTATGC  | CTGGAATTAT | ACAAATAGAC | GATATGAACC  | AATCTCAAGC | 3120 |
|    | TTTAATTGGA | AATAATGATG  | AACATTTAAA | AGCAATTGAA | GAGACTTTTCG | ATGTTGTCAT | 3180 |
|    | CCATGCAAGA | GGACAAGaAG  | TTGCCGTTAA | AGGTACAAAA | ATAGAAAACG  | TAGAAAAAGC | 3240 |
| 50 | GGAATCAGTA | TTAATCAATT  | TGCTGAAGGT | TATTGATTTA | GGTAATAATA  | TTACAATTAA | 3300 |
|    | AGATGTTGAA | GCAGCTATTA  | AAATGGCGCA | TAATAACACA | ATTCAACATC  | TGTTAGATTT | 3360 |

|    |  |      |
|----|--|------|
|    | GCAACGTATA TATGTTAATG CCATGAAAAA TAATGATTTA GTATTGGTA TAGGTCCTGC   | 3480 |
|    | TGGTACAGGT AAGACATTCT TAGCTGTAGT TTATGCAGCA AAGCAACTCC GTAAAGGTGC  | 3540 |
| 5  | TGTTAAACGT ATTGTATTAA CAAGACCTGC TGTGAAGCA GGAGAGTCAC TTGGATTTTT   | 3600 |
|    | ACCAGGAGAT TTGAAAGAAA AGGTAGATCC ATATTTAAGA CCTTTATATG ATGGTCTATA  | 3660 |
|    | TACTGTTCTT GGGCGTGAAC AAACAGAGCG ATTTATTGAA AGAGGCATTA TCGAAATAGC  | 3720 |
| 10 | GCCACTTGCA TATATGCGCG GACGAACATT AGAAGATGCA TTTGTAATTC TTGATGAGGC  | 3780 |
|    | GCAGAATACG ACACATGCGC AAATGAAAAT GTTTTAAACA AGACTAGGTT TTGGCTCAAA  | 3840 |
|    | AATGGTAGTT ACTGGTGACC AAACCTCAAAT CGATTTACCT AAAGGTGTTA AAAGTGGAAT | 3900 |
| 15 | TAAGGAAGCG GTCAGTAGGT TACACAACGT TAAAGGTATA AGTATATTGA AATTAGATCA  | 3960 |
|    | GAGCGATGTA GTCAGACATC CATTGGTAAG TAAGATCATT GAACATTATG AAGGAGAGAA  | 4020 |
|    | TTAAATGTTT ACGATAGATT TTAGCGATCA CACAGGCTTA GTTAAAGATG CTTGGTATAA  | 4080 |
| 20 | ACAAATTGAA GATTTATTAG AATTGCTAA AAAAGAAGAG CATATAGAAG ACGATGCTGA   | 4140 |
|    | GCTTTCTGTT ACATTTGTAG ATAAACAAGA AATACAAGAA ATTAATCGAA CATATAGAGA  | 4200 |
|    | TAArGwTAAr GTTmCaGATG tAaTCyCaTT tGCTTTAGrA GrAGATGAGC CmGaGATkGA  | 4260 |
| 25 | TtTTAGTGGT CTTGATATAC CACGTGTTTT AGGGGATATA ATTATCTGtA CGGATGTAGC  | 4320 |
|    | GCAAGrACAA GCAAACAATT ACGGACATTC TTTTGAACGA GAATTAGGAT TTTTAGCATT  | 4380 |
| 30 | ACATGGATTT TTGCATCTAT TAGGTTATGA TCATATGACT GAAGCGGATG AAAAGGAAAT  | 4440 |
|    | GTTTGGTCGA CAAGATACAA TATTAAACGC ATATGGATTA ACACGAGACT AATTATGAAA  | 4500 |
|    | AGGTTTAAAT ATGCACTTGA TGGGCTGAAA ATCTTAATTC AAAAAGACTA TAAATTTCTT  | 4560 |
| 35 | TTACATGTGT TTGCAATGAT TGTGCTATT GTCTTTGGTC TCGTACTAAA TATTAATCGG   | 4620 |
|    | ATTGAGTGGA TATTTATACT CATGCTATT GCATTAGTTC TCACTGTTGA AGCTTTAAAC   | 4680 |
| 40 | ACTGCTATTG AATATGTTGT CGATTTAGTG ACCGTTGAAT ATCATGATTT AGCTAAATAC  | 4740 |
|    | GCTAAAGATA TTGCGGCTTT TAGTGTACTT ATAGTTTCAA TATTAGCATT TATTATAGGT  | 4800 |
|    | TTAATAGTAT TTTTACCACA TTTTATAGCG TTATTTTAGG GAGGCATATA TGAGTTATCA  | 4860 |
| 45 | ACCTCATTAT TTTCAAGAAG TTAGAAAAGC ACAACAAGAA TCATATTCGC CATAAGTCA   | 4920 |
|    | ATTTAAAGTA GGGGCTTATT TAAAAmCGAA AGACgGTAGA ACTTTTTATG GTACCAATGT  | 4980 |
|    | AGAAAATGCT TCTTATCCAT TATCGATATG TGCTGAACGA GCTAGTTTGG TATCGGCAAT  | 5040 |
| 50 | TtCTCAAGGA TACAGACCAG GTGATTTTGA ATCAAtAACT GTAACCGTAG ATGCAGATAA  | 5100 |
|    | AGTtTTTGAAG GAATTATGTG ATGATGATAT                                  | 5160 |

ACCATTTGGA TTTTCAGGAA AGGATTTAGA ATAAATGACA GAACATAAAT CAGGATTTGT 5280  
 TTCAATTATA GGTAGACCAA ATGTAGGAAA GTCAACATTT GTTAATAGAG TGATCGGCCA 5340  
 5 TAAAATAGCA ATCATGTCCG ATAAAGCTCA AACAACTAGA AATAAAATTC AAGGTGTTAT 5400  
 GACAAGAGAT GACGCGCAAA TTATATTCAT TGATACGCCA GGTATTCATA AACCTAAACA 5460  
 CAAATTAGGT GACTATATGA TGAAAGTCGC TAAAAATACA TTATCTGAGA TAGATGCAAT 5520  
 10 CATGTTTATG GTTAATGCCA ATGAGGAmAT TGGACGAGGC GATGAATATA TTATAGAAAT 5580  
 GTTGAAAAAT GTTAAGACAC CAGTATTTTT AGTATTAAAT AAAATAGATT TAGTGCAATCC 5640  
 AGATGAATTA ATGCCAAAGA TTGAAGAATA TCAAAGTTAT ATGGACTTTA CAGAGATTGT 5700  
 15 ACCTATTTCA GCATTAGAAG GGCTAAATGT CGATCATTTT ATTGATGTTT TAAAGACGTA 5760  
 TTTACCCGAA GnACCTAAAT ATTATCCAGA TGATCAAATT TCAGACCATC CTGAACAATT 5820  
 20 TGTAGTGGGT GAAATCATTC GTGAAAAAAT CCTTCATCTT ACAAGTGAAG AAATCCCTCA 5880  
 TCGGATTGGT GTTAATGTGG ACCGTATGGT TAAAGAAAGC GAAGATCGTG TTCATATCGA 5940  
 AGCAACTATA TATGTTGAAA GAsGTTTCGA AAAAGGAATT GTCATTGGAA AAGGCGGTAA 6000  
 25 AAAGTTAAAA GAAGTAGGaa AAcGTGCGAG ACGTGAtATA GaAATGctTC TAGGCTCTAA 6060  
 AGTTTACTTA GAATTATGGG TCAAAGTTCA AAGAGACTGG CGAAACAAAG TTAACCTTAT 6120  
 TCGCCAAATT GGTATGTTG AAGACCAAGA TTAATCTTAA AAGTGGTGAA GATAATTGTT 6180  
 30 AATGCGCCAA AAAGGGATTA TCATCAAAGC AGTTGATTAT GGTGAATCTG ATAAAATTAT 6240  
 CACGATTTTA AATG 6254

## (2) INFORMATION FOR SEQ ID NO: 405:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 3710 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 405:

45 GTTGTTCTAA ATGTTTCTTG nATGAAACGA GTCAATGTAA ACTGATATTG CTGTATTTGT 60  
 TGCAGCAATT CATATTGGTC TGGTGTGCA ATAACAGCAG CTTGAGTTGG AGTCGCAGCT 120  
 CTGATGTCTG CAGCAAAATC ACTTAATGTA AAGTCTGTTT CATGACCAAC TGCTGATATA 180  
 50 ATCGGTGTCT TACAATTATA TATTGCACGG ACGACAGCTT CTTCGTTGAA ATTCCATAAA 240  
 TCTTCTATGG ATCCACCGCC TCGACCTACA ATAATGGTAT CTACACCTAA ACTATCTGCA 300

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|----|--|------|
|    | TGTATTTGTT CAGCTAATGG AAAACGACTA TTTATCGTTG AATGGATATC TCGAATTGCG  | 420  |
|    | GCACCTGTAC TCGCTGTAA AACTGCAATT TTTTATAGGAA ACTTAGGTAT TGATTTCTTA  | 480  |
| 5  | TTGCTTTTAT CAAAACAACC TTCTTCAGTT AATTTTTTCT TTAATGCTTC TAATTTTGA   | 540  |
|    | TATAAGTTCC CTATACCATC TAATTGCATT TTATTTACAT AAATTTGATA GTTCCACGA   | 600  |
|    | CGTTCAAAAA CAGAAACACG TGCTTCTAAT AAGACTTCAT CTCCTTCTTT AGGTTGGAAG  | 660  |
| 10 | TTTAATTTAG AAGCACTACC TTTGAACATC ATGGCACTTA TAACGCTTTC TTTATCTTTC  | 720  |
|    | ACATTAAAGT ATAAATGaCC ACTTGaATGc TTTTGAAGT TTGAAAGCTC ACCTTTAATC   | 780  |
| 15 | AATACAGATT GGAGATGTGG ATCTTGATCA AATTTATATT TAATATATTT CGTTAAAGCT  | 840  |
|    | GAAACACTTA AATAATCTGA CATATAACAT CACTCAATTT TATTTTTTTA TATTACTCAA  | 900  |
|    | TACACCATTT ATAAATTTAT AATGATCATC ATCACTGAAT TGTTTTGTGA ATTCAACTGC  | 960  |
| 20 | TTCAATTCATT ACGACTTTAG CAGGTGTATC ACTGTGTAAT ATTTCATATG TTGCCATTCT | 1020 |
|    | TAAAATAATA CGATCCGTTT TTAATAAAGC TGCAATAGTC CAATCTTTTA AATAAGGACT  | 1080 |
|    | AATTGTCTCG TCTAATACAG GTTCGTGATC TTTAACGCCA GAACTAGCC AATGAATAAA   | 1140 |
| 25 | TTGGAAGTCT AAATCTGGAT TATCGTCTTT AATAAAGCTT ATCGCTTCAT TTATCGTTAA  | 1200 |
|    | ATCACTGTCC TTCATTTCTA ATTGAAATAA AGTTTGAAAA GCTTGCACTC GGGATTCTTT  | 1260 |
|    | ACGACTCATT TTTAACTCCT TCAAACGTTT GTATTTTTCT TTATTTAATT ACTGAATTAG  | 1320 |
| 30 | GTATGACATT ACTTTTCAAT AACGATTTGT GTAATGTGAA TATTAATTTG CTTAGGTTCT  | 1380 |
|    | ATCGCTGTCA TATTAGAAAT TGAATTAAAA ATTGACGTTT GAATTTTGTT TGCAGTTTTT  | 1440 |
| 35 | GAAATATTAA CACCATGTTT TAATGCACAA TATACATCTA TATATATGCC ATCTTCTTTA  | 1500 |
|    | CTCTCGATTT TTAATCAGC GCTTAAATTT TTACGACTAA CTTTTTCTAA ATTTGTTTCT   | 1560 |
|    | TTTAATTCAG CAAAATGGCC AGTGATGCCT TCGACTTCCG AAGTAGCTAT ACTTGCAATA  | 1620 |
| 40 | ACAGATAGCA CTTCTGGCGC TATTTCTACT TTACCTAATT TTGAATTTGA ATAATCAGTT  | 1680 |
|    | ACTTTGACCA TGGATTGACC TCCTATTAAC CTTTCATCATT CATAATGCTA TTTTGCTCTA | 1740 |
|    | AAAAGTTTGT ATTAAATTTA CCGCTTCTAA ATATATCGTT ATTCAATAAT TTAATATGGA  | 1800 |
| 45 | ATGGAATAGT TGTATCAATA CCAAGAACCA CAAATTCAT TAGTGACGA ATGCCAGCCA    | 1860 |
|    | TAATCGCTTC ATCTCGTGTC GGTTCATGTA TGATTAATTT CGCTACCATC GAATCATAAT  | 1920 |
| 50 | ATGGCGGTAT CGTATAATTA GTATAACATG CTGACTCTAT TCGAACACCA TATCCACCTG  | 1980 |
|    | GTGCAAGATA TTGCTCmATT TTACCTGGTG ATGGCATAAA GTTCTTGTA GGATTTTCAG   | 2040 |

|    |  |      |
|----|--|------|
|    | CAGTTACAGG ATGTTCTACT TGAATACGTG TATTCATTTT CATAAAATAA AATTTATTAT  | 2220 |
|    | CATTTAAATC ATATATAAAC TCAATTGTTT CCGCATTTTC ATAATTTACA GCTTTTCGCTG | 2280 |
| 5  | CACGAACTGC GGCATTTCCC ATTTACAGAC GTGTTTCATC ATCTAAAATT GGGGAAGGTG  | 2340 |
|    | CTTCTTCCAC TAATTTCTGC ATACGTCTTT GAATTGTACA ATCACGTTCT CCTAAATGAA  | 2400 |
|    | TTACATTACC ATAGCTGTCC CCAACAATTT GGATTTCAAT ATGGCGGAAG TTTTCGATGA  | 2460 |
| 10 | ATTTCTCCAT ATAAAGTCCA CCATTACCAA ATGCAGTTTG AGCTTCTTGT TCTGTCATTC  | 2520 |
|    | GGAAGCCAGT TTCAAGTTCT TTTTCATCAC GAGCAACACG GATACCTTTT CCGCCACCGC  | 2580 |
| 15 | CAGCAGTAGC TTTAATGATG ACCGGATAGC CAATTTTTTT GCGCATTTTC TTAGCTTCTG  | 2640 |
|    | AGACGTCTTT CATTAAACCG TCACTACCAG GAACAACTGG AACATTGGCT TTGATCATTT  | 2700 |
|    | CTGCCTTAGC AACATCTTTG ATACCCATTT TTTGGATAGA TTGATAACTT GGTCCAATGA  | 2760 |
| 20 | ACTTCAATTG GcATgctTCG CATAATTCTG CAAAATCAGC ATTTTCAGCT AAAAAGCCAT  | 2820 |
|    | AACCCGGATG AACGCCATCA CAACCTGTAG AAGTTGCAAT AGATAAGATG TTCGGAATAT  | 2880 |
|    | TTAAATATGA ATCTTTAGAC AAAGTGGGAC CTACGCAATA TGCTTCATCA GCAATTTGAG  | 2940 |
| 25 | TATGTAGCGC ATCTTTATCC CCTTCAGAAT AGATTGCAAC AGTTTGGATG CCTAAATCAC  | 3000 |
|    | GACAAGCGCG AATAATCCTA ACTGCGATTT CACCGCGGTT TGCAATTAAA ACCTTTTTCA  | 3060 |
| 30 | TTATTTACC TTAAATAACG GTTGGCCATA CTCTACCATT TGTCCGTCTT CACTAAGAT    | 3120 |
|    | TTCAACAATT TCACCTGAAA TTTCTGCTTG AATTTCAATTA AATAGTTTCA TTGCCTCTAA | 3180 |
|    | AATACACACT GTTGTTTCAT TTGAAACAGT GTCCCCAACT TGCACATATG CTTCTTCGTC  | 3240 |
| 35 | TGGAGATGGC GATTTGTAAA ATGTACCTAC CATAGGTGCA TTAATTGTTT TGTGATTATC  | 3300 |
|    | TGAAGTTGGC TTTGGAGCTT CAGTTTTAAT GCTATCAGTT GATTGTGCTT GAGGCATAGG  | 3360 |
|    | CATTGCCGCA GCTTCAACTG GCATTTGTGA GATTTGTGGC GTGATAATCT CAGTTTCTTT  | 3420 |
| 40 | TTCTTTCTTA AGCGTCACTT TGCCTTTAGT ATCTTCAATA TTGATTTCCG TTAAAGTTGA  | 3480 |
|    | TTTATCCAGA ATTTCAATTA ATTCTTTGAT TTCTTTAAAG TTCATTATTA CTGACTCCTT  | 3540 |
|    | CAGTTTGTTC TCATCTACCC GTCTATTTTA CTTGAGACAA CTCTTCAATT CAAGCATGTT  | 3600 |
| 45 | CATATTGCTG GCGACATTAT AAGTCTATCC CAAAGTTATA ATAAAACCAC ATTTTAAATT  | 3660 |
|    | AAAAACACTT GTGTATTTAT TACTTAACAT TGAATCATCT TAACTCTTGA             | 3710 |

(2) INFORMATION FOR SEQ ID NO: 406:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1705 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 406:

|    |   |      |
|----|---|------|
| 5  | GCTGATGTTT GTTGCCTTTn TCCACCAGAC AATTCAGAGG GATATTTATC ACTAATATCC   | 60   |
|    | AATATATTTA ATGCTTCTGC TACTTTTTCA TAACGATTTA ACATATGTTT TTTATCTAAC   | 120  |
|    | TTCTGTACCG TTAGTGGTAA CATTATGTTT TCTTTAACAG TCAATGTATG CAGTAAATTA   | 180  |
| 10 | TACTCTTGAA AAATAAAACC AATATCATGC TTGCGTATAT CAGATWATTC CTTGTTTGAA   | 240  |
|    | AGCTTTTCTA ATTTTTTTCC TTTTAATGTA ATAGAACCTT GTGAAATATA ATCAATTGAA   | 300  |
|    | CTTAAAACAT TTAATAATGT CGTTTTCCCA GATCCAGAGG GACCCATAAT AGCAATAAAC   | 360  |
| 15 | TCGCCTTCTT CAATAGACAT ATTGATATCT CGCAACACTT CTTGTGCCAT TTTTTTAGTT   | 420  |
|    | CCATATATTT TTGTTAATTG TTTTACTTCT AAAATTGCCA CTTTAACACT CCTATAATTT   | 480  |
|    | ATCTTAACTT CATTTCTTTT AGGCTTTGGC ACTTGTATCT TCAATTTAAC ATATGACTAA   | 540  |
| 20 | CATCTATCTT ATTATAACGT TGAAGCTGCA TTGATGTATC AATTCTAAGT AACAAAACGC   | 600  |
|    | ATGTTTAAAA TGACAAATTT GTCACCTCCG ACATGCGTTC AACAAATTCA TTTTGTAATG   | 660  |
| 25 | GGAAAATCAA TCTGACAGTT GTCCCCTTAC CAACAGTCGA CGTGACTTGC AGGTGAATAC   | 720  |
|    | CTAATTGATC CTTTACACTA TTTACTAAAT ATAGACCCAT ACCTGAAGAC GTCGTTTCAT   | 780  |
|    | TTCTGTTAGC CGTTGACGTA AATCCTCGTT CAAATATTCG CGGCATATCT TTTTACTAA    | 840  |
| 30 | TACCTCTGCC ATAGTCTTTA ATATATAACG AAACATGTTG ATCATTTAAT TCTGTCCCAA   | 900  |
|    | TTTCAATATT AAAATTCTCA CTATATTTCA ATGCGTTTGA CAAAATTGT CTAATAATCA    | 960  |
|    | TACGACACCA TTTTATATCT GTATAACAT AATCATCCAC TTTAAAGTCA ACATCAAAAC    | 1020 |
| 35 | CAATACCTTT AACCTGACTA ATATGTCTTG TTAATTGTAT TTCATCAATG ACCATGCGTT   | 1080 |
|    | TAAGTGACAC GTAATCAAAA TACATATCTT TACGTTGAGA TTCTAATCTA GTAATATACA   | 1140 |
| 40 | GCTGTGTATC TAGCATCGAG TTTATACGAG ACCATTCTA TAGTAATGCT TGTWTTCTTT    | 1200 |
|    | CTTGATTTTT TTCTTGATCA ATTAATAATT TCATAGCTGT CACAGGtGTT TTTATGTCGT   | 1260 |
|    | GCACAAATTC TGTAATGGTT TGTTTCATGCA TGTTC AATTG CAACTGTTGC TCAACAACCT | 1320 |
| 45 | TTTCTTTGTG CGCTGAGATT TGACGATATA AATAATCAAC TGTATGACGT TGAAATGGCG   | 1380 |
|    | TTTCCGCTAA ATCTTTATGT TTAATTTCTT CTATTTCTTT ATCTTTGTCA AAATGCTTAT   | 1440 |
|    | ATAATTTTAC TTCTTTAAAA TATGTCAATA AAAGAAAAAT CATTGTTAAA CTTAAATTCA   | 1500 |
| 50 | AAGAAACAAT ATAAAATAAA CTGTCTATTG GAAAATCATA ATCGATTAGA CTATGCGCTA   | 1560 |
|    | CTTAAATGAA CTTTAAAAAC AATATCCAAA ATATCCAGTT CATGCGAGAT TTCAAAAAAT   | 1620 |

GCACTATCCA TACTAATTTTC AGATA

1705

## (2) INFORMATION FOR SEQ ID NO: 407:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 407:

|    |  |      |
|----|--|------|
| 15 | TCAATATATC TTAAAATTCA ATGATTAAAT CnATTATCAC TAGACATnAA ATACATAAAT  | 60   |
|    | CCTATTCCCC ATTTTCATTT nTTAATTCAT AAATGAATCA ATAACCACCT AATAACAAAT  | 120  |
|    | CATATTATAC ACCTTTGTTC TCTATTTTTC TAAGGTTTAA AAAATATTTT TAGGTAAACC  | 180  |
| 20 | TAAAAATAGA TGTAATAAAA ACGCCTCCTC AGATATTTAT ATATCTATGA AGACGTTTAA  | 240  |
|    | ATACATTATA GATGGTCTGG TTCTGGGTGA ACGTATACTG AGGAAAtACC TTTTTTGTGC  | 300  |
|    | AAATGATGTT CGACATTGTC ACAAATTTGA TGCGCTTCTA CTAAGGAAAG GTTAGCATCT  | 360  |
| 25 | ACAACAATTG TGACATCAAT AAACACACTA CTTCCATGGT AACGCCCTTT AATACTTTTA  | 420  |
|    | ACTTCTTGTA CTTCAATCAAC TTCTAAAATA TCATTGCGAT ACGCTTCTAA TTCAGTTTCA | 480  |
| 30 | TTGAAACCAT CACTCAACAT AAAAATTGCT TCTTTAAAAA TACCAAAACC AGTATAAACG  | 540  |
|    | ATTAGTAAGC CTAGTAATGT TGCTAAAATA ATATCGACAA TTGGGAAACC GATTTGCGTA  | 600  |
|    | AAAATTAATC CTATCGCTGT TCCAATGCTG ACTAAACTAT CCGATAAATT ATCTTTGGCA  | 660  |
| 35 | GCCGAATTTA AAGAACTACT TTTCGTTCTT TTCGCTAGTC TTTGATTGAC TGCAAATACA  | 720  |
|    | ATCAACATTA CAAGACCACT GATTAAGCTG ACGATAATTG TTATTGCGTT AGGTACAACG  | 780  |
|    | TCATCTTCTT TGAACAAACG AGGTGCATTT TGAATAACTA CTTGGATACC TACAAACATA  | 840  |
| 40 | ATGACAAATG ACACCAATAA TGAAGAAATA TTTTCAGACT TCAAATGGCC ATAAGGATGA  | 900  |
|    | TTTCGATCGG CAGGTTTAAT TGAAATTTTC AATCCAATAA TAACAGCTAA AGAAACGATA  | 960  |
|    | ATATCTGTCA TATTGTTTAA TGCATCGGCT CTTACAGCTG CAGAGTTAA GACAAAACCC   | 1020 |
| 45 | GTGACATACT TAACAATAGA TAAGATTATA TATACAATTA AACTCAAATA AGCACC GCGT | 1080 |
|    | TGCGCCAATT TAAGATTTTC ATTATGAGAC ATGCGTTGAA CCACCTTGAA TTAGTATAGT  | 1140 |
| 50 | AACAATATTA TGAATGATTC ATTTTAATTT TACAACGTTT TTAATTTTTA TAAATTTTTA  | 1200 |
|    | TAAAAATAAA CTAATTTATT CATTGCAAC CCCTAAAAAT AATTTTTAGC CTTTCTGCGA   | 1260 |
|    | ATTTTATGAG CTAGAAAGGC GCCCAACTCT CCCTGTTTGT TAACTTTTCG CTCGAAAGTT  | 1320 |

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CGAAwTTAT GAGCTAGAAA GGCTTATGCA GTTGACGTTT TACGTCCAAC TCGTTCCTC 1440  
 CGTCTTCTTC AAATTTATTT GTnAGAAAGG CACCCAAC TC CCTGTTTG TTAAC TTTCG 1500  
 5 CCTCGAAAGT TTCTATGTTA GAACCCTATG CATGAGTTGC GAAhTATCTA ATGTCGTGAA 1560  
 CTAATTATAT AGAAGAAAAA GTGCATCAAT GACAAATTAA ATGAGATTTT TACTCTACCA 1620  
 AACTCTCTTC GAAAGACAAT TTTCTCCTCT ATTTATTAGC AACTATTGCA TTTCTCCATA 1680  
 10 TAGTACTTCC TTA CT TAAAA TACGCTGAAT GTCTGAATTA AA 1722

(2) INFORMATION FOR SEQ ID NO: 408:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5521 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 408:

GCGAGACCCC CTGAGGGAGC AGTGCCAGT CGAAGACCCG AGGCTGAGAC GGCACCCTAG 60  
 25 GAAAGCGAcC ATTyCAATAC GAaTTgTGat AAATAGAGAA CAGCAGTAAG ATATTTTCTA 120  
 ATTGAAAATT ATCTTACTGC TGT TTTTTTA GGGATTTATG TCCCAGCCTG TTTTTGTGA 180  
 TTTTAAATAA TTTGAATATG GAAAATGTAT TATTCTCTCA TTTGTATAGA TTGTATTTAA 240  
 30 TAAGTTAATG TAATCCTTGA GCTCACGATT AATAAAATTC TATAACCTTA ATTATTTTCT 300  
 CGATACAAAG GGT TATTAAAC TTTAATATAA GTATAATGAT GTGCCTCATC TTCAAGACGC 360  
 ATTGTTGTAA CACACTTATA ATCTATAAAT GGCGCGAACA TGGTATCTTT AATTTCaTTT 420  
 35 ATGCGATTCT CATTTACTTG ATTAGATTTG TGTGTCGAAA GTACAAGTTG ATCaAAAATG 480  
 TTATCTAGTA CATCACGAAC GATATACCAC ATATGTCTTT CTAAGTTTGA ATCATTTGAT 540  
 40 GCTTTAGAGA TTGTAAGAAT TAATTCGCCT AAATGGTTTT GAACGGTAGA ATAAAAGGCT 600  
 TTGTTAAACA CAGACGTTTT TGAATCAGTA AGAATTCCTG ATTTTTCATG GAAATGAGAT 660  
 GTACTGTATA CCATTTCAAT TAGTTGTGCT TTATCAATTC TTAAACCTTC AAAGTCTCTA 720  
 45 ATATACATCG TGTCCAATAG ACCATCTTTC CGAAATGTTG CAATAGCATT TTGCAAGTGA 780  
 GCCTCTAATG CAATGCCATA TTTAGTAACT AGTGGGATTA CGAGACCAAG CAATGCTTTA 840  
 CTATAAGTTT CAACCCACGA TTTCGCCGAT GATTCAAAAT CAGACAATGA TGCAGCTGAT 900  
 50 TGATAACGTT TAATCAATGT CACGATAGGT GATTCATTGT TAAATGGGTA GGTGCAACT 960  
 TGTGCAATCA TTTGGTATAT ATTTTCTA 1020

|    |  |      |
|----|--|------|
|    | AAAAATGAAT ACCAGCAACT TCATCAATAA TTGTTGATGC ATAGGACTTA AATATGACAT  | 1140 |
|    | CTTTCTCCAA AATATCATTT AAAATACGTG TCATTAGTGG ACCATTGTGC GTCGTTTGT   | 1200 |
| 5  | CTGATAATGT ACGAATCTCA CCTGTAATAT GAACGTTTGT CGACAATTTG ATGTGTGGCG  | 1260 |
|    | ACATAGCTGG GTATTTAGGA ACTAATGTTC TGAAAGATAA ACCAGCATAA TAATCCaACG  | 1320 |
| 10 | TATGTTTTGC TTCAATGATT AATTCTTTAT CTACTTCTGC TTGATAATCA GAATGTAATA  | 1380 |
|    | CGTCATCTAA TTGCCATGGA TGAACAATCA TAATGTGATA ATCATTAAAG TTAACCTTTG  | 1440 |
|    | GCGTAAATTC ATTTTCTAAT TGTTTAATTA AGTCCGGAAA TAGTTGATGA ACAGTTGTAT  | 1500 |
| 15 | CATAATCTTT AGACAGTGAC ATAGTACGGC TTAATTTACT GTGAATCAGT ACTATTTTCA  | 1560 |
|    | ACTTAATAGG TTGATTGAAT TCTGAAGAAT ATAGGAATGT TTGTAATGCA TTTAAACCTT  | 1620 |
|    | TACGTAATTT AGCCCCAGGA TGTAGCGGAT GACCTTCAAT AACGGCTTGC TCTGAACGCA  | 1680 |
| 20 | AGTAACTATC TTCGCTATTT TCGATAATAT TAAATAAAGG TGCAGAATCA TGTTGCATTG  | 1740 |
|    | ACAGTGCTTG ATAGCTAATT GCAAATGTCA TATTAGTtGC ACTGTTTATT AAATCTTGCT  | 1800 |
|    | GAAATTGATC ACTAGCAGCA TTTTTTAAAT CTGGTGCTTC AATTAAAATA CACTCAAGAA  | 1860 |
| 25 | TTTCATTTGG ATGGTGTAAT CGTGTAATCG TATTTGTAAT GTCATCTTTA ATGTAGAAAG  | 1920 |
|    | GGCCTTCAAC ATCAATTGCA TCAAAGGCGT GTTCTCCAGT GATAGGAGCA TATAATGTTT  | 1980 |
| 30 | GCTTAGCTTG TGGGAAGTGG ATTTCTAGTA TATGAGTCGT TGAGATATCT AACATAATCA  | 2040 |
|    | AATCACGACT CAATATTTTC TTACTTTGAG TGC GCGCTTT AACTAAGTTT TCGCGATGCA | 2100 |
|    | TTGATGTGAC CAATCTCTGA GTGACTTTAT CTCTTCCTTG TAAAATCATC TCTTTAAAAA  | 2160 |
| 35 | TATTAGCCCA ATCGCTATTA TGTTGTTGTA AAAATAAATA TGTTTCTTGT TCTTCTTGT   | 2220 |
|    | TAAATTTTAA TGTCTGTTCT TTAAAAATTA AGTTCAAGTT CATAATTCAC CTCTATGAAA  | 2280 |
|    | TATTTTACAA AAGCAAGATA GATTTGTATA ATCCATATTA ATGATAATGA yTCTTATTAT  | 2340 |
| 40 | CAACAGAATG CGGGTGTAAG TTTTATGACA AAATATTTTT TTAGCAGTTC TTTTCTACTA  | 2400 |
|    | TTTCTAGGTA ATTGGATTGG ACAAATAGGG CTAAATTGGT TTGTACTTAC CACTTATCAT  | 2460 |
|    | AACGCAGTTT ATCTGGGGAT TGTCAATTTT TGCAGACTTG TACCAATATT ATTACTAAGT  | 2520 |
| 45 | GTGTGGGCAG GGGCAATTGC CGATAAATAT GATAAAGGGC GATTGCTGAG AATTACAATT  | 2580 |
|    | TCATCATCAT TTTTAGTAAC TGCAATTTTA TGTGTGCTCA CGTATAGTTc ACTGCAATTC  | 2640 |
| 50 | CAATTAGCGT CATTATTATA TATGCGACAT TAAGAGGGAT TTTAAGTGCG GTTGAAACAC  | 2700 |
|    | CTTTAAGACA AGCAATCTTA CCAGATTTAT CAGATAAAAT ATCTACTACA CAAGCTGTmw  | 2760 |
| 55 | CATTTCAATC ATTCATCATT AATATTTGTC GTTCAATAGG GCCTGCCATT GCTGGTGTCA  | 2820 |

|    |  |      |
|----|--|------|
|    | CAGTTTTATT ATGCTTACCA TTACATTTTA AAGTAACTAA AATACCTGAA GaTGcATCAA  | 2940 |
|    | GaTACATGCC GTTAAAAGTT ATTATAGATT ACTTCAAATT ACATATGGAA GGTCGACAAA  | 3000 |
| 5  | TATTTATAAC ATCATTATTG ATTATGGCGA CAGGTTTTTC ATATACGACA CTTTTACCAG  | 3060 |
|    | TTTTGACAAA CAAAGTATTT CCGGGGAAAT CTGAAATATT TGGTATCGCT ATGACGATGT  | 3120 |
|    | GTGCCATTGG TGGTATTATT GCAACGCTAG TTTTACCTAA AGTACTTAAA TATATTGGTA  | 3180 |
| 10 | TGGTAAATAT GTATTATTTA AGTTCATTTT TATTTGGCAT TGCTTTGTTA GGTGTGGTAT  | 3240 |
|    | TTCAACAATAT TGTCATCATG TTCATTTGTA TTACATTGAT TGGGTtATTT AGTCAATGGG | 3300 |
|    | CACGTACGAC AAATCGCGTT TATTTTCAAA ATAATGTTAA AGATTATGAA CGTGGTAAAG  | 3360 |
| 15 | TACTGAGTAT TaTTATGATG GgATAGAGGT ATGaTTCCAT kGGGAAGTCn ATTAATGAGT  | 3420 |
|    | ATATGTGCAG ATGTGTTTGG CATTGTTAGA ACTTTTTCAA TAATGGGAAT AAGTACTATA  | 3480 |
|    | TGCATTACAA TGGTATTCTA TTTTATAAAT AGAAAGTTGA AGTTAAAGTT GGAGGAAAGT  | 3540 |
| 20 | AATCATGGTA TATCTTGAAT GGGCAAAGGC AGATAGAAAT ATTCAATATC GTGTAAITTA  | 3600 |
|    | CGCCATTATT AAAGAACGTA TTTACCCCGA GCAAACATTT ATTTGCAAAA AAGGATCTTT  | 3660 |
|    | AATTGAAATT CAGTATCATA TGCATGTGTT GACTATTGAA GTTGTTAGAA AAAGTGCATT  | 3720 |
| 25 | AGAACGCTAT GAGTTTACAG GTGATATTAC TTATTTAAAT AAAGGTGAAA CGTCATTAAT  | 3780 |
|    | TATAACTTTA GAAGGTTTAT TAGATGTGTT GAATCATGAC TTTGATATCC CTATTTGAGA  | 3840 |
| 30 | GCGACTACGC GAAGAGTTAA TACACAGTCG AGATAGTTTA GTTGAAACAT ATAAGCAAAT  | 3900 |
|    | GTCTCACAGA CAAACGTTAA TAAGTCmAG TTTTAAATTT TCAAGGTTAC CACAAGATAT   | 3960 |
|    | TAACTTTTTT TCakGGTtAC AACATGTAAA AGATAGTGAT AAGACAGATG ATTTAACTTA  | 4020 |
| 35 | TTCTGAGAGT TTGGTACCAG AGGGGCATCC AACACACCCT TTAACCAAAA CGAAATTGCC  | 4080 |
|    | CTTAACTATG GAAGAAGTAC GAGCATATGC ACCTGAGTTT GAAAAAGAAA TCCCTTTGCA  | 4140 |
| 40 | AATTATGATG ATTGAAAAAG ACCATGTTGT GTGCACAGCT ATGGATGGTA ATGATCAATT  | 4200 |
|    | TATTATTGAT GAAATAATTC CCGAATACTA CAATCAGATT CGTGTGTTTT TAAAGAGTTT  | 4260 |
|    | AGGTTTGAAA AGTGAAGACT ATAGAGCGAT TTTAGTACAT CCTTGGCAAT ATGATCATAC  | 4320 |
| 45 | GATAGGGAAA TATTTTGAAG CATGGnTTGC TAAAAAATA TTAATTCCAA CGCCGTTTAC   | 4380 |
|    | AATACTTcCA AAAGCaACTT aTCatTTaGG ACGATGTCTT TAATTGATAA AccATACCAT  | 4440 |
|    | GTTAAGTTGC CCgTCGATGC aCAAGCAACA AGTGCCGTTA GAACAGTCTC AACTGTGACT  | 4500 |
| 50 | ACTGTAGATG GACCAAAGTT AAGTTATGCT TTACAAAACA TGTTGAATCa ATATCCaGGA  | 4560 |
|    | ATGCAAAATG TTGATAAAGA TAGGGCACGT                                   | 4620 |

AGTGCAAGTC TAGTTAATAA AAATCCAATA GATCAAAAAG TTATCGTGGA TAGTTACTTA 4740  
 GAGTGGTTAA ATCAAGGAAT TACTAAAGAA AGTATTACGA CATTTATTGA ACGATACGCT 4800  
 5 CAAGCATTAA TCCCGCCTTT AATTGCTTTT ATTCAAAATT ATGGAATTGC TTTAGAAGCA 4860  
 CACATGCAAA ATACAGTAGT GAACTTGGGG CCACATTTTG ACaTTCAATT TTTAGTGAGA 4920  
 GATTTAGGTG GTTCTAGAAT TGATTTAGAA ACATTACAAC ATCGTGTATC AGATATTAAA 4980  
 10 ATTACAAATG ATAGTTTAAT AGCTGATTCT ATAGATGCAG TGATTGCAAA ATTCCAACAT 5040  
 GCTGTTATTC AAAATCAAAT GGCAGAATTA ATCCATCATT TTAATCAGTA TGATTGTGTT 5100  
 15 GAAGAAACCG AATTATTTAA CATAGTACAG CAAGTAGTAG CGCATGCCAT TAACCCAACA 5160  
 CTACCACATG CAAATGAGTT AAAAGATATT TTGTTTGGAC CAACAATTAC TGTCAAAGCG 5220  
 TTGTTAAATA TGAGAAATGA AAATAAGTA AAGCAATATT TAAATATTGA GTTAGATAAT 5280  
 20 CCGATAAAAA AAGAGGTGTA GTACTACATG GCACACGTTA ACATAAATAT ATCGAAGATT 5340  
 AAaTATAACG CCAAAGTACT TCAAACAGTT TTTCAAAGTA AAAATATGCA ATTCACACCA 5400  
 GTAATTAAGT GCATAGCTGG TGACCGTACA ATTGTAGAAA GCTTAAAAGC GTTAGGTATC 5460  
 25 AATCATGTTG CAGAATCCAG ATTGGATAAC ATAATTAGTA TTGCAGATAC AGGATTTAAC 5520  
 A 5521

## (2) INFORMATION FOR SEQ ID NO: 409:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1261 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 409:

40 AGGTCGTCTr GCaGmAGmGm TATTTGACGA TCTTGCTTTC CAAAACACG ATGATGATTT 60  
 TAACATACTG TCTGATTATA TTGAGACACA TGGTGATTTT aCATTGCCAA TGTCTGTATT 120  
 TGATGATTTA TATGAAGAAT ATACGGAATG GCTAAAATTT TAATATAATT TTTAATAATA 180  
 45 ATAGTTAGAA CCAGGGTGAT GCAATTCGTT ATCCTGGTTT TAATTTAAAA TAACTAAGT 240  
 TGTGACTAAA AATTAATCAA TTATAGTGAA ATATGGTGCG CTATCTTGCA TAAATTGATA 300  
 TGATTAAC TA CACAGAATTT AAAAGTACAT AATACATAAT AAGGAAGTGA TACAATGGAT 360  
 50 GATAAGCAAC ACACATCTTC ATCCGATGAT GAACGCGCTG AAATTGCAAC AAGCAATCAA 420  
 GACCAAGAAA CTAATTCATC GAAACGCGTT CACTTAAAAC GTTGGCAATT CATATCAATA 480

|    |   |      |
|----|---|------|
|    | CAAAAAATAA GTGGTTTAAA CAAAACCTGAT CAAGCAAACCT TAAATAAAAT TGAAAATGTG | 600  |
|    | TATAAAATCT TAAATAGTGA TTATTACAAA AAACAGGACT CTGACAAGTT AAGTAAAGCT   | 660  |
| 5  | GCAATTGATG GCATGGTCAA AGAATTAAAA GATCCTTATT CTGAATATTT AACAAAAGAA   | 720  |
|    | CAAACGAAAT CCTTTAATGA AGGTGTTTCA GGTGATTTTG TAGGTATTGG TGCAGAAATG   | 780  |
|    | CAAAGAAAA ATGATCAAAT TATGGTTACT AGTCCTATGA AGGGATCTCC AGCAGAACGT    | 840  |
| 10 | GCTGGCATTG GTCCTAAAAGA TGTCATTACT AAAGTAAATG GAAAATCAAT TAAAGGTAAA  | 900  |
|    | GCATTAGATG AAGTTGTCAA AGATGTTCTG GGTAAAGAAA AACTGAAGT CACTTTAACT    | 960  |
|    | GTTCAACGAG GTAGTGAAGA AAAAGACGTT AAGATTAAAC GTGAAAAAAT TCATGTTAAA   | 1020 |
| 15 | AGTGTTGAGT ATAAGAAAAA AGGTAAAGTT GGAGTTATTA CTATTAATAA ATTCCaGAAT   | 1080 |
|    | GATACATCAG GTGAATTGAA AGATGCAGTT CTAAAAGCTC ACAAAGATGG TTTGAAAAAG   | 1140 |
| 20 | ATTGTTTTAG ATTTAAGAAA TAATCCAGGT GGACTACTAG ATGAAGCTGT TAAAATGGCA   | 1200 |
|    | AATATTTTTA TCGATAAAGG AAAAAGCTGTT GTTAAACTAG AAAAAAGGTAA AGATACTGAA | 1260 |
|    | G   | 1261 |

## (2) INFORMATION FOR SEQ ID NO: 410:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 2488 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 410:

|    |   |     |
|----|---|-----|
| 35 | AAATATATTG AAnAGAnAAT TACTAAGATT AAATCnTCTT AAAATATCCC TGAAATAACG | 60  |
|    | TCCTAAAGAT TAAAGGAAAG AGGTTATAAG TTATGCCAAA ATTAATTTTA TGTCGTCATG | 120 |
| 40 | GACAAAGCGA GTGGAATGCT AAAAAGTTAT TTAAGGATG GGAAGATGTT AATTTATCTG  | 180 |
|    | AACAAGGTAT TAATGAAGCG ACTAGAGCAG GTGAAAAAGT AAGAGAAAAT AACATTGCCA | 240 |
|    | TCGATGTAGC TTTTACATCG TTATTAACAC GTGCTTTAGA TACAACGCAT TATATTTTAA | 300 |
| 45 | CTGAATCTAA ACAACAATGG ATTCCTGTAT ATAAAAGCTG GCGTTTAAAT GAACGCCACT | 360 |
|    | ATGGTGGATT GCAAGGCTTA AATAAAGATG ATGCTAGAAA AGAATTTGGA GAAGAACAAG | 420 |
|    | TACATATTTG GCGTCGTTCT TATGATGTGA AACCACCTGC TGAAACCGAA GAACAACGTG | 480 |
| 50 | AAGCTTACTT AGCTGATCGT CGATATAATC ATTTAGATAA ACGTATGATG CCTTATTCTG | 540 |
|    | AAAGTCTGAA AGATACTTTA GTTCGAGTGA TACCATTTTG GACAGATCAT ATTTACAAT  | 600 |

|    |             |             |              |             |             |             |      |
|----|-------------|-------------|--------------|-------------|-------------|-------------|------|
|    | TTAAATATCT  | TGAAGATGTG  | TCAGATGAAG   | ATATCATTAA  | TTATGAAATT  | AAAACAGGTG  | 720  |
|    | CACCGCTTGT  | TTATGAATTA  | ACGGATGATT   | TAGAAGTTAT  | AGATAAATAC  | TACTTATAAA  | 780  |
| 5  | AaAAGAGCTG  | CATGTACACA  | AGGAGTGAGT   | GTATATGcAG  | CTCTTAAAtA  | TGTGAAGTAA  | 840  |
|    | TGTAAGGAAA  | TAGTTAAGTA  | TAGAGTTTAT   | ATTAACGAGC  | TAGGGATACT  | CGAAAATATA  | 900  |
|    | GTTAGACATA  | CAATATAGTC  | AAATTA AAAAC | AATTATTTCTG | CTCTTTTATG  | TTGCTTAATA  | 960  |
| 10 | ATCTTTAAAG  | CACGCTTTCT  | TGTTTTAATG   | TTAGGGCTAT  | TTAAATTACG  | ACGAGCAGTC  | 1020 |
|    | TGTAAATCTA  | ATTTTCATCTC | TATCCCTCCT   | TGTAAATATA  | TTATGACCGA  | TAAC TACTCA | 1080 |
| 15 | TATGTAAATA  | GTAATGATTA  | CGTTTTAAAG   | AAATTGTAAT  | AAAGTCGTGC  | TAATTTTTTTG | 1140 |
|    | GAAAAATGGGT | ATAATTACCG  | GATATCTAAA   | AATGTGTGTC  | GTTTTTTAGA  | TGGTGAGGGG  | 1200 |
|    | GAAGCTTTAA  | ATGTCGAAGA  | AACAAAAATT   | AACGATGATT  | ATTACTATGC  | TGATGGGTGG  | 1260 |
| 20 | ATTTTTTGGA  | TTATTAAATG  | AAACACTATT   | AGTGACGGCT  | TTACCAAGTA  | TTATGAAAGA  | 1320 |
|    | TTTTGAAATT  | TCATATACAC  | AAGTTCAATG   | GCTGACAACA  | GCTTTTTTAT  | TGACTAATGG  | 1380 |
|    | GATTGTTATT  | CCTTTGTCCG  | CGCTTGTTAT   | ACAACGTTAT  | ACAACAAGAC  | AAGTGTTTTT  | 1440 |
| 25 | AGTGGGTATT  | TCTATCTTTT  | TCTTAGGTAC   | ATTACTCGGC  | GGCTTGAGTC  | CGCACTTTGC  | 1500 |
|    | AACATTATTA  | GTTGCTAGAA  | TTATTCAGGC   | GTTAGGCGCA  | GGTATTATGA  | TGCCATTGAT  | 1560 |
|    | GATGACAACG  | ATTTTGGATG  | TTTTCCAACC   | ACATGAACGC  | GGTAAATATA  | TGGGGATATT  | 1620 |
| 30 | TGGTTTGGTA  | ATTGGTTTAG  | CACCAGCTAT   | TGGACCTACT  | CTTTCAGGTT  | ACCTTGTTGA  | 1680 |
|    | ATATTTTAAC  | TGGAGATCGC  | TTTTCCATGT   | TGTCGCTCCA  | ATTGCAGCTG  | TGACATTTTT  | 1740 |
| 35 | AATTGGaTTT  | AAAACGATAA  | AAAATGTTGG   | AACTACAATT  | AAAgtTACCTA | TTGATTTTTAT | 1800 |
|    | TTCTGTcATT  | TTTTCTGTAC  | TAGGTTTCGG   | cGGGTtATTG  | tATGGAACGA  | GTTCaATTTc  | 1860 |
|    | AGAAAAAGGT  | TTTGATAATC  | CTAcGtATTA   | GTATCTATGA  | TTGGAGGCGT  | TGTTTTAGTC  | 1920 |
| 40 | GCATTATTTG  | TAWTACGTCA  | ATATCGGCTA   | TCAACACCAT  | TATTaAATTT  | TGCTGTATTT  | 1980 |
|    | AAAAATAAAC  | AATTTACAGT  | TGGTATCATT   | ATTATGGGTG  | TCaCAATGGT  | ATCGATGATT  | 2040 |
|    | GGTTCGGAAA  | CGATTTTACC  | TATCTTTGTG   | CAAAATTTAT  | TGCATCGTTC  | AGCTTTAGAT  | 2100 |
| 45 | TCTGGATTAA  | CTTTATTACC  | AGGAGCAATT   | GTTATGGCAT  | TTATGTCGAT  | GACTTCGGGT  | 2160 |
|    | GCTTTATATG  | AAAAGTTTGG  | TCCTAGAAAT   | CTTGCTTTAG  | TAGGTATGGC  | GATTGTTGTT  | 2220 |
|    | ATTACTACGG  | CTTATTTTGT  | TGTAATGGAT   | GAACAAACAT  | CAACAATCAT  | GTTGGCAACA  | 2280 |
| 50 | GTTTATGCGA  | TTCGAATGGT  | TGGTATCGCG   | TTAGGATTAA  | TTCCAGTAAT  | GACCCATACG  | 2340 |
|    | ATGAATCAAT  | TAAAGCCAGA  | AATGAATGCA   | CATGGTTCAT  | CTATGACAAA  | CACAGTACAA  | 2400 |

AACTTTTCTC CAACTATGTC AGACTATA

2488

## (2) INFORMATION FOR SEQ ID NO: 411:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1105 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 411:

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TTTTACAATT TCAGATATCT CTAAACACA TACCGATCCA ATGGCCAAAA TTATTCGTCA      60
AAAATTGAAA AACTAGGAA TTCGTAAAGG GATTCCAGTT GTATTTTCAG ATGAAAGTCC      120
AATTGTCATA AGAGAAGATG TAAAAGATAT AGTTGGAGAT AAAAATGCTA TCAATCGAAA      180
AGGACAAATG CCACCTTCTT CAAATGCCTT TGTGCCAAGT GTTGTGGAT TAATTTGTGC      240
AAGTTATGTG GTGAATGACG TATTAAAAGA TATTCCAGTT CGTCGCATTA AAGACAAAGG      300
GCAATAATTC ATTTTGAAAG GGATAATTTT CAACGTAAGG CAAGTGTAAC CACACCATAA      360
AACTAAAACT GACTAGTTCG CAAGCATAGT AGAATATGCC TCGTGACTA GTCAGTTTTG      420
ATTTGATTAT AGCTAAAATA TCAAAGGTAA TCGATTTAAT CTTATTTTTA CGGCCTTTGT      480
TTAAGTAAGT TGTTATATAT TTCTTTGAGT TGTTGTTTAC TTTTAGATGT CGTTTTTGGT      540
TCGTAATAAA TTTTGTTTTT TAGTTTATCA GGTAAATATT GCTGTGAAAC ATAGCCATTA      600
ACATATTGGT GTGGATATTT GTAACCAATA GATCGGCCTA GATCTTTAGC ACCTTGATAA      660
TGTCCATCTT TTAAATGGTT TGGAATTTGG CCCACATGAC CGTTTCTAAT ATCGGACAAAT      720
GCACTATCAA TGGCACTCAT TGCTGAATTT GACTTAGGTG ATAAGCATAG TTCGATTACT      780
GCTTGGCTTA GTGGAATTCT AGCTTCTGGT AAACCTAGAC GTTCTGCTGA TTCAATAGCA      840
GCAAGTGTTT TCTGACCAGC ATTAGGTGAG GCTAAGCCTA TATCCTCATA GCTAATTACA      900
AGTAATCGTC GAACTATTGT AGGTAAATCT CCAGCTTCAA TTAATCGTGC TAAATAATGT      960
AAAGCGGCAT TGACGTCGCT ACCACGGATA GATTTTTGGA AAGCGTCAT AACATCGTAA     1020
TGCATGTCAC CATCCTTGTC ACTTACAAAT GCACCTTTTT GTAAACAGTC TTTAGCATCT     1080
TGCAATGTAA CATGTCGATA ACCGT                                           1105

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## (2) INFORMATION FOR SEQ ID NO: 412:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 579 base pairs
- (B) TYPE: nucleic acid

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 412:

5 TAACGTCGAA CTTGAGCTGT TACGTTATGA CTCATAATTA TTTTAGCATA GTCATTTAAA 60  
 TAAACTTCTG TTCTGTCTGT TGGATAAGCA AATTCAAGCA ATTGACTGTA ACTATCATT 120  
 ATGACTTCTT GATCAACATG ACTATCAAAA TATACAGCAT AATAATAAGT ACCATCAACC 180  
 10 ATATATAACA AATCTTCAAA CTCTGTAGTT ATTGGATTGC TATGATATGC ATAATTAATA 240  
 ACATCTTCTA AATCGTTAAA TTTCACAATG ATTGTTCTTG TATTTTTACG TGCTGAAGAC 300  
 TTTTGACGTT TAGAACCTTG AGCTTCTTTT TCTTTTGTTT GTTGCTCGAA TAATCTTCT 360  
 15 AATTGATCTT CACCTTCTAA TGTTTGAGCT AACAACTCTT GAACTTGTTT ATCAAATkGA 420  
 TCAGTTGCAT CATCATCAGA CATATTCATC ATATCTTCAT TTTTAGATTT AGAAATTGTG 480  
 ACTTCGACAC CTTTTTCAAA GGCATGTACT TGAATCCATA ATGGACCTnC TACAACAAAA 540  
 20 TCTTCTACTT CGTTAATTTT ATCCATCATT GAnCAAAAG 579

## (2) INFORMATION FOR SEQ ID NO: 413:

## (i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 1342 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 413:

GTGGTGAAAC TTCTTGCTTT GTAATTTTAT AAAGTGGATC AATATCACTC TGACTTACAT 60  
 35 CAGGTTGAAC TGTCACTTTT TTAGTTACTT TGTTTTCAAG CGTAATATTT GCTAATTcTA 120  
 GGtTTTACAG AATAATGAAT GTCATCAGCT AmCCCTTTmm CtTGATACTy CTCTTGATAT 180  
 TTTCCAGCTT TAGCATTGTA TAAATCAATC ACTACTCTTA AATCTTCTGG ATTTTCAATT 240  
 40 TTTATTATCT TTGATTGTGG TCCTGAAATA GTCACATTAA CTGTTTCAGG CGCTTTTGTT 300  
 AAATGCAAAT CTTTAGTGTT ATAAAGAATT TCAACGGGTA CATCTTGAAT CGTTTTACTA 360  
 GACTTTTGAC CAAGATTACC AGTGTTAAAG ATATTTCCTA AACATTGTT AACAGATAAA 420  
 45 AAGAAAAACA ATGCCAAAAG AAAGGCAATA AATCTCAAGC CCCATTTACT TTCTAGCATA 480  
 TTATTTCAACA CCTTTCTTTT GAAAGCGTGT GCCAAACCAA TGTTCAAGCA GCAACTCTTC 540  
 AAAAAATTCG TTTGAAATGT CTCGTCGTAA TTTTCCATCA AATGTTACCG AAATATCACC 600  
 50 AGTTTCTTCA GATACAATAA CGGTAAATGC ATCAGATACT TCTGAAATAC CAACCGCAGC 660

TGCTGCTGCT GCAATCTTCG TGCCTTGAAT AATCATTGCA CCATCATGTA AAGGTGTGTT 780  
 AGGTATAAAG ACATTAATTA AAAGTTCTTG CGAAATATTT GAATCCATTG CAATACCTGT 840  
 5 TTCAATATAA TCTTGAAGAC CTGTTTCTTT TTCAAAGACA ATTAATGCAC CTATACGTCT 900  
 TTTAGCCATA TATTGCACAG CCTTTGAAAC CGATTGAATC AATTTCTCTT CATCTTTACT 960  
 ATACGTATTA GAAGTATAGC GTTTTAAAAA GCTACCTCTA CCAAGTTGTT CTAACGCACG 1020  
 10 TCTAATTTCT GGTGGAATA TTACTATTAA AGCTAATACC CCCCATTGAA TAACGATATC 1080  
 GAATAATTTA GATGTTGCAG TCAAGTTCAA TATCATACTT ATCTGCTGAC CAATAACAAT 1140  
 TACTAATATC CCTTTAAGTA ATTGTATCGC TTTAGTTCCC TTAAAGACCG TGATGAGAAG 1200  
 15 ATAAAGTACA TACCAAATA TCAGTAAATC AAGGATACTC GTTACAATTT TTAACGTACT 1260  
 GAGGTTTTGA AAAAAGTTGG AAAAATCCAT AACATCTCCT CCGGGTAATA TTTTCCATA 1320  
 ATACCCATTA TACCAATCAT TT 1342

(2) INFORMATION FOR SEQ ID NO: 414:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1073 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 414:

CTGTATAAAG ATGGAGGTGT TTTGCATGGT AAAACGTACT TATCAACCAA ATAAACGTAA 60  
 ACATAGTAAA GTTCATGGTT TCAGAAAACG CATGAGCACA AAAAATGGCC GTAAAGTTTT 120  
 35 AGCGCGCCGT CGTCGTAAAG GCCGTAAAGT TTTATCTGCA TAAGATCACT GACTCATCAG 180  
 TGAtCTkTTT TTTCGTTTAA ATTAAGAATA AATAGAAATT TATGTTATAA GCTCAATAGA 240  
 AGTTTAAATA TAGCTTCaNa TAAAAACGAT AnATAAGCGA GTGATGTTAT TGGAAAAGC 300  
 40 TTACCGAATT AAAAAGAATG CAGATTTTCA GAGAATATAT AAAAAGGTC ATTCTGTAGC 360  
 CAACAGACAA TTTGTTGTAT ACACCTGTAA TAATAAGAA ATAGACCATT TTCGCTTAGG 420  
 TATTAGTGTT TCTAAAAAAC TAGGTAATGC AGTGTTAAGA AACAAGATTA AnAGAGCAAT 480  
 45 ACGTGAAAAT TTCAAAGTAC ATAAGTCGCA TATATTGGCC AAAGATATTA TTGTAATAGC 540  
 AAGACAGCCA GCTAAAGATA TGACGACTTT ACAAATACAG AATAGTCTTG AGCACGTACT 600  
 50 TAAAAATTGCC AAAGTTTTTA ATAAAnAGAT TAAGTAAGGn TAGGGTAGGG GAAGGAAAAC 660  
 ATTAACCACT CAACACATCC CGAAGTCTTA CCTCAGACAA ACGTAAGACT GACCTTAGGG 720

TTTAGATACA ATTACGAGTA TTTCAACACC AATGGGTGAA GGGGCAATTG GAATTGTTTCG 840  
 ATTGTCTGGA CCGCAAGCCG TTGAAATTGC TGACAAATTA TATAAAGGAA AACATCTTTT 900  
 5 AAATGATGTT CCATCACATA CGATTAATTA CGGTCATATT ATTGATCCAG tCTAAAGAAG 960  
 TGGTTGAAGA AGTTATGGTG TCTGTGTtAA GAGCGCCAAt AACATTTACA CGCGArGATA 1020  
 10 TTATAGaGAT TAATTGTCAT GGTGGtATtk TAACGATTAA TAGAGTGCTG GGA 1073

(2) INFORMATION FOR SEQ ID NO: 415:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3176 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 415:

CTTTACCAAT GCCAAATCCG AAGTAAAGTA TAGCAATAAA GATTACTAAT ACAATTCTGT 60  
 AAATGGCAAA TGGAATTAGT TTGATTTTGT TAATTAGATG CAAGAATGTT TTGATTGCAA 120  
 25 TTAGTCCAAC AGTAAATGCA GCTAAAAAGC CTAAAATATA AAAAGGTATA TCAGCAATCT 180  
 GAATATCTTG ATAATGTTTT AATAAAGATA AACCCTAGC TGCTAACATA ATTGGAACAG 240  
 CCATAATAAA TGTAAGTCC GATGCTGCTT TATGATTTAA TTTCATTAAT ACCCCAGTTG 300  
 30 AAATTGTTGA GCCTGAACGG CTGAAACCAG GCCACATAGC TACTGCTTGA gAAATACCAA 360  
 TTACAAATGC TTGGAAATAA CTGATTGAT CTACTGTTTG TGGGTTTTTA ACTTTAGCTG 420  
 AGTATTTATC AGCAATAATC ATATAGATAG CACCTACGAA TAAGCCAATC ATAACAGTTG 480  
 35 GCACACTAAA TAAATGTTCT TCGATGAAAT CATCAAATAG TAAGCCTAAA ATACCTGCTG 540  
 GCACCATACC CACTAATACA TGTAATAAAT TTAAACGTCT TGGCTTTGAA CGTCTTTGTT 600  
 GATCGTTATC TCCTTCAACA TGTTTGTGTT TACCAATATG TAAAATCTCT AAGAAGCGTT 660  
 CGCGGAACAC CCATGCTGCT GCAAAGACGG ATCCTAATTG GATGACGATT TTAAATGTAA 720  
 ATGCTGACTG AGAACCTAAA AATTCAGATG ATTTTAACCA CATATCATCA ACTAGGATCA 780  
 45 TATGTCCAGT AGAGGAAACA GGTGCAAATT CTGTTAATCC TTCGACGACC CCTAAGATAA 840  
 TACCTTTTat TAATTCAATG ATAAACATAA TGTACCCACT TTCATTACTC AATTTAATTT 900  
 ATTTAAATAT CAAAATTACC ATATCATGAT AGCATATTCA TTTAAAGACA TGCTAGTTAT 960  
 50 AGTTATAATA CTAGACTAAA GATGTATATA TTCATTTTCT TTTACATGTA AAACCTACAAT 1020  
 ATTTTATTGA GCTATTTAAT TTGATTTTAA GGAAAACCTT TTATAATAGG TTTAGGTGAT 1080

|    |  |      |
|----|--|------|
|    | TTCTTGGTCA GTACTGGTCT CGGCATAATC GTTATAACGC AAAATATTTT AATAGCAGAT  | 1200 |
|    | TTTTTAGCTA AAATTATAAG ACATCAATTT CAAGGTTTAT GGATTGTATT ATTTATTTTA  | 1260 |
| 5  | TTAGGTGTTT TACTTTTAAG AGCAACTGTG CAATTTCTAA ATCAATGGTT AGGTGATACA  | 1320 |
|    | TTAGCATTTA AAGTTAAGCA TATGCTTAGA CAGCGGGTTA TTTATAAAAA TAATGGTCAT  | 1380 |
|    | CCAATCGGTG AACAAATGAC TATACTCACA GAAAACATTG ATGGTCTAGC ACCTTTTTTAT | 1440 |
| 10 | AAGAGTTATT TGCCTCAAGT GTTCAAATCA ATGATGGTTC CGCTCATCAT AATCATTGCA  | 1500 |
|    | ATGTTTTTCA TCCATTTCAA TACCGCATT AATTATGTTAA TAACTGCACC ATTTATTCCT  | 1560 |
|    | TTGTTTTATA TTATTTTCGG TTTGAAAACG CGAGATGAGT CAAAAGATCA AATGACTTAT  | 1620 |
| 15 | TTGAATCAAT TTAGTCAACG GTTTTAAAT ATTGCTAAAG GTTTAGTGAC GTTAAAGCTA   | 1680 |
|    | TTTAATCGTA CAGAGCAAAC AGAGAAGCaT ATTTaCGACG ATAGTACTCa GTTTAGAACT  | 1740 |
|    | TTAACAATGC GCATTTTaCG CAGTGCTTTT TTATCGGGAT TAATGCTCGA ATTTATAAGT  | 1800 |
| 20 | ATGTTAGGTA TTGGATTGGT TGCATTGGAA GCAACGCTAA GCTTAGTAGT ATTTTCATAAT | 1860 |
|    | ATTGATTTTA AAACTGCGGC AATTGCGATT ATTTTAGCGC CTGAATTTTA TAATGCAATT  | 1920 |
| 25 | AAGGACTTAG GGCAAGCGTT CCATACTGGA AAACAAAGTG AAGGTGCCAG TGACGTTGTG  | 1980 |
|    | TTTGAGTTTT TAGAACAACC GAACTATAAT AATGAATTTT TATTAAAGTA TGAGGAAAAC  | 2040 |
|    | CAAAAGCCAT TTATTCAGTT AACAGACATA TCATTTTCGAT ATGATGATTC TGATAGATTG | 2100 |
| 30 | GTATTAAATG ATTTAAATTT GGAAATATTT AAAGGTGATC AAATTGCACT TGTAGGTCCA  | 2160 |
|    | AGCGGGGCAG GTAAATCCAC TTTGACACAT CTTATTGCAG GTGTTTATCA GCCAACAATA  | 2220 |
|    | GGTACTATAA GTACAAACCA GCGTGATTTA AATATAGGAA TACTTAGTCA ACAGCCATAT  | 2280 |
| 35 | ATTTTCAGTG CTTCTATAAA AGAGAATATT ACGATGTTTA AAGATATAGA AAATAATACT  | 2340 |
|    | ATTGAAGAAG TGCTAGACGA AGTAGGTTTA TTAGACAAAG TGCAATCTTT CACAAAAGGC  | 2400 |
|    | ATTAACACAA TAATAGGTGA AGGAGGCGAA ATGTTATCTG GTGGACAGAT GAGACGCATA  | 2460 |
| 40 | GAACTTTGCC GTCTTTTAGT TATGAAGCCA GATCTCGTTA TATTTGATGA GCCTGCAACT  | 2520 |
|    | GGTTTAGATA TTCAAACAGA ACACATGATT CAGAACGTTT TGTTCACAA TTTTAAAGAT   | 2580 |
| 45 | ACAACGATGA TTGTCATTGC ACATAGAGAT AATACAATTC GCCATTTACA ACGACGCTTG  | 2640 |
|    | TATATAGAAA ATGGAAGACT GATTGCTGAT GATCGCAATA TTTCACTAAA TATAACAGAA  | 2700 |
|    | AATGGTGATG ACTTATGAAA ACACGACTAA AATTTCAAGT AGATAAGGAT TTATTGTTAG  | 2760 |
| 50 | CTATAGTTGT TGGTGTGTTT GGAAGTTTAG TTGCGCTCGC CATGTTTTTC TTAAGTGGTT  | 2820 |
|    | ATATGGTGAC ACAAAGTGCA CTTGGTGCGC CACTATACGC TCTGATGATT TTAGTCGTTA  | 2880 |

|   |   |      |
|---|---|------|
|   | ATAAAGCTAC ATTTACAATG CTACGTGATA TTCGGGTACA GTTTTTCGGT AAATTAGTAA | 3000 |
|   | ATGTCATTCC TAATGTTTAC CGTAAACTGA GTTCTAGTGA TTTAATTTCA CGTATGATTA | 3060 |
| 5 | GTCGTGTTGA GGCATTACAA AATATAKATT TACGTGTTTA TTATCCACCA GTCGTCATCG | 3120 |
|   | GTTTGACAGC GCTAGTTACA GTCATAGTTT TGGCGTTCAT TTCAATCGGC CATGCG     | 3176 |

(2) INFORMATION FOR SEQ ID NO: 416:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2109 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 416:

|    |  |      |
|----|--|------|
| 20 | TCTTTATTTT AATTTC CAAT TGAATTTTTT TATTATTTAC GCATAGCTCT TAAAATTAAC | 60   |
|    | GTTACGATTG CAATTAAGAT AATTGAACCA ATTAATGCTG GCAAGATGTA AATACtTCCT  | 120  |
|    | AATTcAGGAC CCCATTGTCC GAATAGTTTG CCACCTACCC ATGATCCAAT AATACCTGCG  | 180  |
| 25 | ATAATATTGC CTAAAATACC ACCTGGGATA TCTTTACCCA TAATAGCACC AGCAGCCCAT  | 240  |
|    | CCAATTAAGC CACCGACAAT TAACATTCCA ATAAATCCAA ACATAATTTT CAGTCTCCTT  | 300  |
|    | TTTCTATTTA TTTTGC GTTA TTCTAAGTAG TACCCCTTAT TTACAATTCT AAAACAAATT | 360  |
| 30 | CAAATTATTT TTATCCAAAT ATTTTAAAA GTAGTAATTG AATATCAATT TTATTCAATG   | 420  |
|    | TAGCTATCGT TATTTAAAGT CTCTGTACCG ATAATATCAT ATACATTTAC ATTATTTTTT  | 480  |
|    | CTGCCGAATT CATAGCTTGA TTATTTTATG TTATAGGACT AgAATATACA CATATTATTA  | 540  |
| 35 | GAGCATCTTT GAATTTTAAA TCAAGAAGCG AGGTTAATGA ACAATGAATA TGCATATTTT  | 600  |
|    | ATATaACTTA CGAACTAAAC ATAATTAGA AATTGACGAA TTAGCACAGC AATTAAATGA   | 660  |
|    | GAAATATGGT ACTAAATATG AAGCACATCA AATTTGGGAA TGGGAGAATC ATCACCATGA  | 720  |
| 40 | ACCTAAATTT AAAGATGCCA TGCATTAGC TGACTtCTTT GATGCACCAT ATGAAATGTT   | 780  |
|    | TTTAGAAAGT AAGGTAAAG AATATCAGAA ACATTTAGAA GAAGTCGATA TTCGCATGGA   | 840  |
| 45 | TAAATAGATG CAAATAAACC CTCACAACAC GTTTGGCATA TATCCTTTCA AATCTATACT  | 900  |
|    | GGATATATTA CATTACGTTG TGAGGGTATT TTATTAATTA ATATGAATTA AGACATTTTA  | 960  |
|    | CAAGCGTTAA TGCAACGAAT CTTTTTAGTG ATCTTGCTCA CTCTTTAATA CTTTACCGTT  | 1020 |
| 50 | CTTAGCATCA ACAGTAACTT CTTGTTTTTT ATTACCTTTT TTCAAATCGA TATTGTAAAC  | 1080 |
|    | AAGTTTGCCA TCATCTTTTT CAAGTGACCA TTCTTTAATA TCACCATCAA ATTCTTTTTG  | 1140 |

|    |  |      |
|----|--|------|
|    | ATTCATTGTA TCTTCTTTTT CAGTCTTTTT GTTAATCACT TTTTATTTT TATCAGCAAC   | 1260 |
|    | AAGTACTTCT GACTCTTCAC CAGATTTTTG TTGCGTCACT TTATAAGCCC ATTCACCATT  | 1320 |
| 5  | AGAAATTTCA AATGAAATTC CTTTCAACTT TTGGCCTTTG TAAGTTTCTT CAGCTTTTTT  | 1380 |
|    | CACAGCATCT TCTGGGCTTG TTTTAACATC TTTTAAAGCA ATAACATCTT TTGTTGTATT  | 1440 |
|    | AGTGTCTTGA TTAGTATTTG ACTCTGTTGA TTTTGTTC A TCTTTTGGAG TATCATTGCC  | 1500 |
| 10 | ACATGCAGTA AGCACCACCG CTGACATTGA TAACACTGCT AATGATTTTA ATTTTCATAAT | 1560 |
|    | ATCACTCTCT CTTCTATTTT TTGAAACTCA TAACAAAAGC TTATATGCTA TATAGATTGT  | 1620 |
|    | ATTACCCCTT GTTTTTAATT TTATTCATAA TTATTACAAA TATTTTAAA TTAATCGTCA   | 1680 |
| 15 | TGCGTTACTT TCGTTCTGAC TCCTTTTATA AATGAACCAT GTAATATAAG CATGCTATTA  | 1740 |
|    | TCGACTCAGT TTGTCTAATG CTTTCTTTGG TACTTCTTCC TTTTCAACTT CTTCAAAAGT  | 1800 |
|    | TTCTACATGA TGACCTTTAT GTGTAATTTT CAAGTATCTA TGCGGTTTAA CATCAAATGT  | 1860 |
| 20 | AGCAGTATAC ATTAATTGCG TCTCTTTCCC TTCTTTATTA AAAACACTTT GACTATAACT  | 1920 |
|    | TCGGAGTTGA TCATCCATTC TAGTAGACAC CTCTGTCGTT TTAACATAAG AATCATCCTT  | 1980 |
|    | CTTTACTAAT GGGTTAAATT GATCTGTTAT ACCATGGGAG TCTATTGTTT TAAAAATGAA  | 2040 |
| 25 | TAAAGCagCA TAAGCGCCAA TGATAGTAAG TACAAGATA GTkATTGTTT TAAAATCGT    | 2100 |
|    | TTCAAAAAGA   | 2109 |

(2) INFORMATION FOR SEQ ID NO: 417:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 813 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 417:

|    |   |     |
|----|---|-----|
| 40 | GTTACATAAA TGAAAACAAA AAAGATAATT TTAGTCTTA TGCTACACCA GAACATAATT  | 60  |
|    | ATCAATTTGG TGGTGCTATG ATAGAAAGTG AAAAATTAAG CGAGTTACTA AAGCCAGCCA | 120 |
|    | ATCAGTTAAA ATCACCAGAT GATATAAAAA AAGAACTAAA TAAAAAGAAG AGTCACTAAA | 180 |
| 45 | GTTAGGAGTT ACTTTAATGT CCAAAAAACA TGTTTTTATA ATTATTGGTG TCATATTGTG | 240 |
|    | TATATGTACA GTTTCTACGG TCATGCATTT TAAATGAAA TATGATGAAA AAGAAAAACA  | 300 |
|    | AAAAGCGATT TACTACAAAG AACACAAGA ACGTATTACA CTCTATCTTA AGCATAATAC  | 360 |
| 50 | TAAAGAAACG AACACGATTA AATCTGTACA TTTCACAAAC TTGGAAACAA GTCCTATGGG | 420 |

ATCGCCTGAA CATAATTATC AATTTGGTGG CGCTATGATA AAAAGTGAAG GAGTAGATAA 540  
 ATTATTAAAA CCAGCACATG AAAGAAAAATC ACCAGAAAAA ATCAAAGAAG AATTAGATAA 600  
 5 AAAAGAAGGC CACTAGGGTC TTCTTTATTT TTGATTTAAT CTTCCAATAA TCTATGTCAT 660  
 TGCTATCGAA GGTGTTTCGC AATTAATATA AATCACTTCA TCATCACCAA TACTTCCCCA 720  
 GTTTTGTACA GTACATTAAC ACAAACGAAC CACGTTAATT TAAATGGAwT AaTAGTTTGG 780  
 10 CCATTATAAG AACAATATAT ATCGAnTAAC AAT 813

(2) INFORMATION FOR SEQ ID NO: 418:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 640 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 418:

AAAAGCAATC GTTGGTGGTG CTAAATTCAT CGGCAACTCA TATGTAAAAG CTGGTCAAAA 60  
 25 TACACTTTAC AAAATGAGAT GGAATCCTGC ACATCCAGGA ACACACCAAT ATGCTACAGA 120  
 TGTAGATTGG GCTAACATCA ATGCTAAAAT CATCAAAGGC TACTATGATA AAATTGGCGA 180  
 AGTCGGCAAA TACTTCGACA TCCCACAATA TAAATAAGCA ACATGAACAT AGGATCAAAA 240  
 30 GTCATCCCCC ACTATCAATC ATGGGGGATG ACCTTTGATC CCTTTTTTAT ACATACACAA 300  
 GCAAAAATAG CGGTGATTGT TTACCATCAA TTTTAACAAT CACCGCTACT TTTGCTTGTA 360  
 ATTCATGATT CAATTTTTGT TGTGTGCACA ACGACACTAA ATTATGTGTT TGCTATTGTC 420  
 35 GTGTTACAAC GATATGCGTC GTTGATTTAA CTTATCAAGT AATTGATTTA AATTGTCTAA 480  
 TTCGACTTCC GATAAACATT GACATCTTGC TTCAATCAAT TCGCAACGTG CATTATTTAT 540  
 40 TTGTGAAATT AATGTACGTG CTTGATCAGT CAAAATTAAT TCTTTACATC TTAAATCTTC 600  
 GCTAGATTGT TGAATTGTGA TGTACCCnnT CAAAACATAAT 640

(2) INFORMATION FOR SEQ ID NO: 419:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1159 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 419:

TTCTTGGATA CGTAATAAAT TACCTTTTGT CATAGGATTA AACATAGATC CAGGTAAAC 120  
 ATAAACATTT CTATTTTGCT CTAATGCAAA ATCTATCGTG ATGTGACTGC CACTTTGTTC 180  
 5 CTTAGCCTCA GTAATTAAAA CCCCTTTTGA CAAACCGCTG ATAATTCTAT TGCCTCAGG 240  
 AAATCTATAT TTAGCGATTG GTGTATGTGG TGGATATTCA GATATAACTA AACCTTTTTC 300  
 TTCTATTTTA TTTCTTAATG CTAATGTACT TTTGGGATAA TGTGTTTGAT GGCCAAAGGC 360  
 10 TAAACTGCA ATTGTAGGGA GATTGTATTT TAAAGCTATT TGATGTGCCA TTGCATCAGC 420  
 TCCTTGAGCA AGGCCGAAA CAATTGTAA ATATTTGCTT TTATCATTTG ATAATAAAAA 480  
 TTCTAAAGAC TGTGGGTAT AACTTGTAGA ATCTCTTGCA CCTACTACTG CCAATGATG 540  
 15 CATATTATTT ATTAATTTGA TGTTCCCTTT ATAGAAAAGA AGTAATGGAA ATTGATATAT 600  
 TTCTTTAAT AGCACTGGGT ATTCAGAATC CATATATGTA ATGTAACCTA CTTTTAATTT 660  
 CTGCAGTTCT TTAATAATAT CGTTATGATC AAGTTTTATA AAAGCATAGT ATTTACGTAA 720  
 20 TAAATGAACA TTTTCTTCCC TATTCACCCA TTCACATAAA TAACTATCTT TTTTCTTCC 780  
 CTCCTCTTTA ATTACATTAG GATATGCCAT TAAAAATTGA TGAATTTGTT TAGTCGAAAA 840  
 GTGTGCCCAG TATAACTTAA GCAAAAATAG TTTAATCAAT AAATCAACTC CTTTTTGTA 900  
 25 TCATACAAAA TCATATTCTA TTTTGTGTTT ACATTTCTAA TACAAAAACA TTGTCGATGT 960  
 AATGTTATTT TAAGGAGTAA AAATACTGAC TTAAAAAGTG AAAAGTATGT TGGAAAGAAT 1020  
 30 TTAAATTTT AATTTCCAAC ATACTTTATA ATTAAACCTT ATAAATAAGT TTGCAAATT 1080  
 TATATAGAAT TGGTCTTACT GGTGTGATGA AATCACCAT TAATTCTTCA ACATGTGCAT 1140  
 TAAACCCCTT TTTAAATTG 1159

35 (2) INFORMATION FOR SEQ ID NO: 420:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1879 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 40 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 420:

45 TCAATCAGCG ACTACAAGAA GTGCGGGTCT TCAAACAATT GATGTGACAA CACTAAGTGA 60  
 CCCCACTAAT ATTATCATGG GTATTTTAAT GTTTATAGGA TCTTCGCCAA GTTCGGTTGG 120  
 50 TGGCGGTATT CGTACAACAA CTTTCGCTAT TTTAATTTTG TTTTAATTA ACTTTAGTAA 180  
 TAATGCCGAT AAAACATCCA TTAAAGTTTA CAATAGAGAA GTACACATTA TGGATATTCA 240

|    |  |      |
|----|--|------|
|    | ATCAGCTACT GAAAATGGTA AGCTTACATT TTTACAAGTA TTTTGAAG TCATGTCTGC    | 360  |
|    | ATTTGGAAGT TGTGGACTAT CGCTTGGTGT CACAAGTGAT ATTAGTGATA TTTCTAAGGT  | 420  |
| 5  | CGTACTAATG ATACTCATGT TTATAGGACG TGTGGGCTTA ATATCATTTA TCATTATGAT  | 480  |
|    | AGCAGGACGT CGAGAACCAG ATAAATTCCA TTATCCAAAA GAACGTATTC AAATAGGATA  | 540  |
|    | ATATAATAGC AATCTAAGTT TAGTTAATGT AGATTTTAAC TGGAACTTAG ATTGCTTTTT  | 600  |
| 10 | TAGTTTGTAT TTTTAACTTA TTTTATAAGA CGATTGGTTT CGAAAATGGT AAAC TAGTAA | 660  |
|    | CAATGAGAGG TGTAACATGA TGGAAAAAAA TGAAACATT AATGTAGAGA TTTTAACTAC   | 720  |
|    | GTCAGATATG CATAGTCATT TCTTAAATGG TGATTATGGT TCAAATATTT ATAGAGCTGG  | 780  |
| 15 | TACTTATGTT AACCAAGTAA GAGCACAAAA TCATCGCGTC ATTTTATTAG ATAGTGGCGG  | 840  |
|    | AAGTTTAGCT GGCTCGTTAG CGGCCTATTA TTATGCTATT GTTGACCTT ATAAACGACA   | 900  |
|    | TCCAATGATA AAGTTAATGA ACAGAATGCA TTATGATGCT AGCGGTGTGA GTCCAAGTGA  | 960  |
| 20 | ATTCAAGTTT GGTTTATCAT TTTTAACTCG TTCAATTGCT TTGGCACGTT TTCCATGGTT  | 1020 |
|    | ATCAGCAAAT ATTGAATACA ATGTTACTAA GGAGCCTTAT TTTTCAACTC CATATTGTAT  | 1080 |
| 25 | TAAACATTTT GGTGACTTAA AAATTGCTAT CGTAGGCGTC ACAGCAGATG GTTTAATGGA  | 1140 |
|    | AAATGAGTAT TCTGAAATGG AGCAAGATGT ATCTATTGAA AAGACATTAG TGGCATCAAA  | 1200 |
|    | ACGTTGGATT AGATATATCC ATGAAGTTGA AGAGCCAGAT TTTTGTATTG TAATTTATCA  | 1260 |
| 30 | TGGTGGATTG AATAAAATTA GTAATAGTAC GAAAAATAAA AAGGCAAGTT CGAATGAAGC  | 1320 |
|    | TGAAAAATTA ATGGAAGAAC TCGGTGTTAT AGATTTAATG ATTACAGCTC ATCAGCATCA  | 1380 |
|    | AACAATAGTA GGTCAAGATC ATGAAACGTA TTATGTTTCA GCTGGTCAAG ATGCCAAAGA  | 1440 |
| 35 | GCTTGTACAT CTTTCGATTA ATTTTAAAAA GAGAACAACA ACTTATGATG TTGAAAGCAT  | 1500 |
|    | TGATTCTAAA GTGATTGACT TAAATGAGTA TGAAGAGGAT CAAGAATTAT TAGATTTAAC  | 1560 |
|    | ATTCTATGAT AGAAAAGCAG TGGCTTATTG GTCACAGGAA ATCATAAGTG ATAAAGGTTT  | 1620 |
| 40 | GATGTTATCA GTAAATGGGT TACAAGATTT AGTCTGTCAA ACACATCCAT TTTCGCAATT  | 1680 |
|    | ATTACATGAT GCAATTCACC TTGCATTTGA TAATGATATA ACATGTGTCC ACGTGCCTAT  | 1740 |
| 45 | GaACGGAGAG AAGGGGTTGA GTGGACAGAT TCGAAATGAA GrTTTGTATC aTGCATACCC  | 1800 |
|    | ATaTCCAGAT aAGCCaTGGG tATGACAATT aGTGGTCAAA ATaTCAAGGT ATnTTGGGGT  | 1860 |
|    | ATAGTTATTC ACCATTAGG   | 1879 |

(2) INFORMATION FOR SEQ ID NO: 421:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2710 base pairs

(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 421:

|    |  |      |
|----|--|------|
|    | AATCCCCCT TTTTCCCCAT CCATTTTnCC ATCCACTGGT CCTTACGGGA CCATATTATT   | 60   |
| 10 | TnAAATTGGA nAAAATTATt TTAAAGaTTA TwActACTCT TcAATCATTT TrGTGAATTA  | 120  |
|    | AAAAAAGTAG TGCAAAAAGC AAAATATACT TTATACACTA CAAATCATTT ATTTATAATA  | 180  |
|    | AAGTTTCACC AAAAAATGTT CCAACTAATG AAACCGCTTG TTCAGCAGTA TGATTATTAC  | 240  |
| 15 | TGTCAATCAA TGGATTTACT TCAACTAAAT CCATTGAGGA AATTAAATGT GATTGATGCA  | 300  |
|    | GTAATTCCAA TGCAAAATGG CTTTCTCTAT AACTAAGACC ACCCAAACT CTAGTACCAG   | 360  |
|    | TGCCTGGCGT TTCAAGCGGA TCTAAAGCAT CAACATCTAA AGATAAATGA ACGCCATCAA  | 420  |
| 20 | CATTGCGTGA CTTCAAATAT TCTATTGTAT TTTCAATTAC TTCCTTTATC CCCAATTTAT  | 480  |
|    | CAATATCTGA CATAGTAAAT GTTTTAATAT TATGATCTTT GATAAATTGT CTTTCACCTT  | 540  |
|    | TATCTAAATC TCTCATACCA ATTAGTACGA TgnTTTCTGG CTTGATTACA TTACnATTTA  | 600  |
| 25 | ATTCTAAAAG TTCTTTGGGA CCTTCGCCTG TCAAAATCCT TAGAGGCATA CCATGAATAT  | 660  |
|    | TTCCACTTGG TGA CTCTTCA GGTATAITTA AATCACCATG TGCATCATAC CAAATAACAC | 720  |
|    | CTAAATTATT ATAATGTTTA CTTATTGCTG ATACTGAACC TACCGCAATA GAATGATCTC  | 780  |
| 30 | CACCAAGAAC TAGAGGAAAT CTGTTATTTT CAATTGATGC TGAAACCTCT TTATTTAATT  | 840  |
|    | TTTGATTAAC ATCTATAATT TCATCATAAT TTCTTAATCC TTTTGTTCa CTATGAAATT   | 900  |
|    | TTTCAATGTT CACAGCAGGt ACCTTAATAT CCCCCTTGTC ATATACATCA AGGTCTAATT  | 960  |
| 35 | GCTTTAATCT TGAAATTAAAT CCAGCATATC TAATTGCTGT TGGTCCTAAA TCAACACCTA | 1020 |
|    | ATTTTCTTTG TCCAAATGTT GATGGTGCAC CTATAATATC AATTGCTTTT GTCTTTGTCA  | 1080 |
| 40 | TAAGCGTCCC CCTTTGCTCT ATGTAATTAA AGAATAATGT ATGCGCTTAC CATTATCAAG  | 1140 |
|    | CAATAGCTAC ACATATAATC TGTTTATCTT ATTACTTCAT AAAAAAAGGT TCTTCATCTT  | 1200 |
|    | TTATGGTGGG AAGGTAAAAC TTCCTGCTTT TTTTAATACA CAAAAAGCGC AATTGCCTCT  | 1260 |
| 45 | ATAATTTAAA GTGACCAAAC CCAAATAAA GGAGACAAGT GCGCCTATGT GTAATGATAC   | 1320 |
|    | CTTAGAATTA CTAAGAATAA AAGATGAAAA TATAAAATAT ATAAACCAAG AAATTGACGT  | 1380 |
|    | CATTATCAAA GGAAAAAAG CAACAGTGGT TAATGCTGTA CTAACGTATA AGCCTTCGGC   | 1440 |
| 50 | CTGTTATTGT TGTGGAGTTA AAAATGAAGG ACAAATTCAT AAACATGGTA AGCGTGTTTC  | 1500 |
|    | TGCTATTACT TTA CTTAAAA CTCAAGGGTA TAACACATAC CTCAACTTAG CTAAACAACG | 1560 |

|    |  |   |      |
|----|--|---|------|
|    | GTGTTTTATC TCAAGATGTG TTA  | CTCAAAA AGTTATAGAA GAAGCTACTA AAGTTAAAAAC | 1680 |
|    | AGAGATTGAT ACTGCAGAAG ATAACTGTAT CTCTCCATCT ACTGTAAGTC GTATTAGAAC  |   | 1740 |
| 5  | TAAAGCGGCT AATTCATTAC GAATTAAACC CTTTAATTGT TTGCCAGAAC ACATCGCTAT  |   | 1800 |
|    | GGATGAATTT AAAAGCGTTA AAAATGTAAC TGGATCAATG AGTTTCATTT TTATAGATAA  |   | 1860 |
|    | TGATACTCAT GATGTTATAG ATATTTTAGA AAATAGAACT ACAAGATTCT TCGTGCCTA   |   | 1920 |
| 10 | TTTCGAGCGA TTCGATTAA AAAATCGACA ACAAGTTAAG ACGGTTACTA TTGACATGTA   |   | 1980 |
|    | TGAACCCTAT GTCCGATTAT TTCGCGACCT ATTCCTAAT GCAGCTATTA TTTTGTACAG   |   | 2040 |
|    | ATTCCATATC GTTCAACATT TAAATAGAGA ACTTAATAAG TATCGTGTAC AAGTTATGAA  |   | 2100 |
| 15 | TGAATACCGT AATAAAAAAG GACCTGATTA TACAATTTT AAGAATAACT GGAAAGTCCT   |   | 2160 |
|    | ATTGATGGAT ACTAGTAAAA CCATATTTAG TAAATACAGA TGAATAAAT CTTTAAAGGC   |   | 2220 |
|    | TTATAAACGC TCATCTGACA TTGTAGAATT CATGCTTTCA AAAGACGATA TACTACGACA  |   | 2280 |
| 20 | CTCCTACGAA CTGTGCTCAAG GATTACGAAA AGACCTAAGG TTATGTAATT GGCCTAAATT |   | 2340 |
|    | TATTAATCGT TTAAATTCAG TTAGTAAAAA GTCTGTGAGT AAGGGTGTAT GGAAAGTGGT  |   | 2400 |
|    | TAAATATTAT AGAAAACATC AAAGGATGTT AAGAAATACA ATTTATTACC CAGCATTAA   |   | 2460 |
| 25 | TAATGGTGCT ATAGAAGGAA TTAATAATAA GATAAAATTA ATCAAGTGAA TTTCTTTTGG  |   | 2520 |
|    | TTACAGAAAT TTCAACAACT TTAAGCACG TATAATGATG aTTTTCAGCT TGTACAAAGG   |   | 2580 |
| 30 | AGaAAAAAAG AAGACAACCA AGCCCAATAA TGGACTGGCC GCCTAATAWA nGGGskCTAA  |   | 2640 |
|    | AAGTTgTATT TTTAAAAATA GTTCCTTTAA ATTATATACC CnCCACATTT GGGGGAGGAC  |   | 2700 |
|    | CTAAAAAAGC   |   | 2710 |

(2) INFORMATION FOR SEQ ID NO: 422:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1027 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 422:

|    |   |     |
|----|---|-----|
| 45 | CATTTTAATT GtTaAAATTC CAAAAAAtGT ArGTGGATTw AAAGrAAACC CtGTGTTTTT | 60  |
|    | AAAAGGtACC ATTaAAATAg TTCCGATTGT ACCATCCCAC GTGAAAtTTT TAgTAtTGCC | 120 |
|    | GGTGaGAGAA AATGCCAATG CAATCATCGC AGTTCATAAT CATCCATCCG GTGATGTAAC | 180 |
| 50 | GCCCTCACAA GAAGATATCA TAACAACAAT GAGGTTGAAG GAGTGTGGTT TGATTTTAGG | 240 |

GGGTTACTTT GATGAAAATG ATTGAAGTTG ATAGAATTAA TGACGTATCT TGTGTATAAT 360  
 ACCTACGAAG TACTTTCATT GGAGGAAAAA TAGTGACTCT ATTTATTATT ATCGGGGTTTC 420  
 5 TCGTGCCAAT GGTTTATACC ATGCAGTTAA ATATTAAAAA TGAACCTGTa ACAAAGCGCA 480  
 ATCTTTTAAT AACATTAGCT TTATCTACGT TAGGTATTTT AGTAACCGCG TTAGCAGGTG 540  
 TAATCGTTAC GAAACAAGCT TTTCTTTTAT TAAGTGTAGC AATTGGCTCA ATTTTACTG 600  
 10 GAATCGTTTG GGGCCTTTTA CTAAGTGGTA GcTACGCGCT GATACGATTT TTATCTAACG 660  
 CATTTGGGCG TAAGTAATAG TAATCTGTTT ATCAAGTAGT ATCCGTGCTT GAAAACAAAC 720  
 TAAAACTCCT AATGTGGAAC TAGTTAAAAA ATTCTAACT AGTACATTAG GAGTTTTGTT 780  
 15 ATGCAGAATA AATTTAATTG TTAAATTGAA AGTGCGGTAA AAATCCACTA TTTATTTGAA 840  
 AAAAATCGAG CAACCAAATT AAACCTTGAT ATCCTAAGTA AATACATAAT AAAACAAGTC 900  
 CGACATAAAT TAAAAATCGC AAAATAGAAA GTCCAACCTCT AAAAAGGAGG ATGACTAATA 960  
 20 GTGCTATTAA AATAATTGTL AGTATACTCA ATGCTACAAA CCTCCTArTA CGCTTTTAAA 1020  
 TCCATAA 1027

(2) INFORMATION FOR SEQ ID NO: 423:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 569 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 423:

CGGCACATTT TTAATTTATA CATATTTTAA AACTAAGTAA CAGTTTGAAG AAATCGTAGT 60  
 TCAATAATGT TAATTGTGAA AATGTATATA AACATAAAAA AATCATGTAT AATATATGTT 120  
 GTTAATTAAA CAGTTCGAAA GCGAGATGAC ATTATGGGAC GTAAATGGAA TAACATTAAA 180  
 40 GAAAAAAAGG CCCAAAAGA TAAAAACACA AGTAGAATAT ATGCGAAATT TGGTAAGGAG 240  
 ATTTATGTTG CAGCAAAATC TGGTGAACCC AATCCAGAAT CTAACCAAGC TTTAAGGTTG 300  
 GTGCTTGAAC GCGCTAAGAC ATATTCAGTG CCGAATCATA TTATTGAAAA AGCAATAGAT 360  
 45 AAAGCTAAGG GTGCTGGAGA CGAAAACCTT GATCACCTAA GATATGAAGG ATTTGGCCCA 420  
 AGCGGATCAA TGCTAATTGT TGATGCGTTA ACAAATAATG TAAATCGTAC TGCCTCTGAT 480  
 GTGCGAGCTG CTTTGGTAA AAACGGCGGT AATATGGGTG TATCTGGATC AGTTGCTTAT 540  
 50 ATGTTGTCAT GTGGCCACAT TTGGTATTG 569

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3264 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 424:

|    |   |      |
|----|---|------|
| 10 | TGGACCTATA AAATGGATGC ATCCAAATAT GGATGnGGGG TAnGGCGGGa AAATAGGaGG | 60   |
|    | TTATATAGTA AGTCATTTAA GTCGAATAGC CATCCTTTTT AAAATGAAAA AAATAGAAAG | 120  |
|    | CTCAATAGTT TGTAAAGCC TTAAATAGC GTCGTTACGC AATTTTAGAA TGCTAAAAAT   | 180  |
| 15 | TGTCACAAAT TTCAAATTAC GTGCTAAAGC TTGAGATATC AATATTTATT GGCGATAGAG | 240  |
|    | TGTAATTGTA CTCCGCTTAC ATCTCAGTTT TATGTTTGTA ATTTGGTAGC ATAATATTAT | 300  |
|    | AATAAAATAA AATTGTTAAT CTTTAATTTT AGTATAGATA TTTTACGTG TAGTCACGTG  | 360  |
| 20 | TAAAATAAAT TCAATTAGGT TAGGAGACAT AATTATGAAA ACATTTGGTA AAAAGGTTGT | 420  |
|    | ATTAATCGGA GATGGATCTG TAGGATCAAG CTATGCCTTT GCAATGGTTA CGCAAGGTGT | 480  |
|    | TGCTGATGAA TTTGTAATTA TTGACATTGC AAAAGACAAA GTAAAAGCAG ATGTTCAAGA | 540  |
| 25 | TTTAAACCAT GGTACAGTCC ACAGTCCTTC ACCAGTTGAT GTGAAAGCAG GTGAATACGA | 600  |
|    | aGaCTGTAAA GATGCAGATT TAGTTGTTAT TACAGCTGGT GCACCTCAA AGCCAGGTGA  | 660  |
| 30 | AACACGTTTA CAATTAGTTG AAAAAAATAC TAAGATTATG AAGAGCATCG TTAAGAGTGT | 720  |
|    | TATGGATAGT GGCTTTGATG GATATTTCTT AATCGCGGCA AACCCTGTAG ACATTTTAAC | 780  |
|    | AAGATTTGTA AAAGAATATA CTGGATTACC AGCAGAGCGT GTTATCGGTT CAGGTACTGT | 840  |
| 35 | ATTGGACAGT GCACGTTTAC AATATTTAAT TAGCCAAGAA CTTGGTGTG CACCTTCAAG  | 900  |
|    | TGTTGACGCT AGTATTATTG GCGAGCATGG TGATACTGAA CTTGCAGTTT GGTCACAAGC | 960  |
|    | AAATGTAGCA GGTATTTTAC TATATGACAC ATTAAAAGAA CAACTGGTA GCGAAGcTAA  | 1020 |
| 40 | AGCGGAAGAA ATTTATGTGA ATACACGTGA CGCTGCTTAT GAAATTATCC AAGCTAAAGG | 1080 |
|    | GTCAACATAC TATGGTATTG CATTAGCATT GATGCGCATT TCAAAAGCCA TTTTAAATAA | 1140 |
|    | TGAAAATAAT GTCTTAAATG TTTCTATACA ATTAGATGGT CAATATGGTG GTCACAAAGG | 1200 |
| 45 | CGTTTACCTA GGTGTACCAA CATTAGTTAA CCAACATGGC GCAGTTAAAA TTTATGAAAT | 1260 |
|    | GCCATTAAGT GCCGAAGAAC AAGCGTTGTT CGATAAATCT GTTAAAACAT TAGAAGATAC | 1320 |
|    | ATTTGATTCA ATTAAATATT TATTAGAAGA CTAAGCCTAT TTTAAGTATT AATTAGAAAT | 1380 |
| 50 | ATATTAATGG TAAGAGGATC TATTAGTGTT GCAGTAACAC GTGGCACTGA TAGGTCCATT | 1440 |

|    |   |      |
|----|---|------|
|    | TATGACTCGT GAAAATTTAG TGACATGAAT AAAAATGTTG AGGCGTCATT GAGTATAAAG | 1560 |
|    | GAAAGTAGTT CTGCATTAAT CACGAaGTAG AGCATGACma CGAGGAATAA CTATAGGGaG | 1620 |
| 5  | ATGGTTTTGG AATGACGAtG TCTTGATCA ACATGGTACA TTAGGTACGT TAATGGCTGG  | 1680 |
|    | CTTACTAGAA GGCACAGCTA CAATTAATGA ATTGTTAGAA CATGGGAATT TAGGGATTGC | 1740 |
|    | AACGTTAACA GGGTCTGATG GCGAALaATA TTTTtagACG GAAAGGCATA TCATGCTAAC | 1800 |
| 10 | GAGCATAAAG AATTTATAGA ATTAaaAGGC GATGAGAAAG TACCGTATGC ATCGATTACT | 1860 |
|    | AATTTTAAAG CGAGTAAGAC ATTTCCATTG CAACAATTAT CACAAGATGA TGTATTTGCA | 1920 |
|    | CAAATTAAAA ATGAAATGTT AAGTGAGAAT TTATTTTCGG CTGTTAAaAT TTATGGCACA | 1980 |
| 15 | TTTAAACATA TGCATGTACG AATGATGCCT GCTCAGCAAC CGCCATATAC ACGTTTGATT | 2040 |
|    | GATTcAGCAC GCAGACAACC TGAGGAAAAA AGACAAGATA TTCGTGGTGC CATtGTTGGA | 2100 |
|    | TTTTTTACAC CAGAATTATT TCATGGCGTA GGGTCTGCTG GTTTTCATAT ACATTTTGCG | 2160 |
| 20 | GATGATGAAA GAGCTTATGG TGGACATGTT CTTGACTTTG AAGTGGATGA CCTTGTcGTT | 2220 |
|    | GAGATACAAA ACTTTGAAAC ATTCCAACAA CATTTCCCGG TAAATAACGA GACGTTTGTt | 2280 |
|    | AAAGCGAAAA TAGACTATAA AGATGTGGCA GAAGAAATTA GAGAAGCTGA ATAGTCTAAT | 2340 |
| 25 | ATAATTAAAA GACCTTAGCG ATATTAGGAA CAGGTGGTTC TAAATGCATC GTTAAGGTCT | 2400 |
|    | TTTTATATTA TATATGTGCT TACATATTTT GTTGATACGC GCGTAAAAAG CTATAAATAG | 2460 |
| 30 | TATCAAGATA TGGGGTGTCa AGAATGTGTT CACGTGCACG TCGATAAATA AAGCCTTGAA | 2520 |
|    | TCGCTTCGAC TTCAAGAGGT TGCTGATGCG CAATGTcGTA ATACATGCTC GTTCCCATTt | 2580 |
|    | CGTCGGGATA ACCTTGATAT ATAGTCATAA TAGTATCGAC AGTTTGTtCT GAAAAGTTTA | 2640 |
| 35 | ACCCCTCTGC CTGTGCAACA CGACAACCAT CTAGTAATAG CTGTCTACAC AGTGtACGTA | 2700 |
|    | TTTCAGGATT ATGCATGATT GCAACGGTCT GTCTACCGAG TGCTGTGATA GAATTAATGC | 2760 |
|    | CCAAGTTAAC TAACAATTTA TACCAaATAG CTGTtGAAT ATTTGCTTCT AATACAATGT  | 2820 |
| 40 | CGATTTGACT GTCTTGGAAC AAATCTCTAA ATTGTcGAGT TAATGCATTA TCTTGTATAC | 2880 |
|    | GTAATTGATA ATCTCTGAAG TCGTAACAA CATCGCCTTT CTTTTGACCA CTTATATAGA  | 2940 |
|    | CAACTGCTTG GCATACGTTT TTAAATGAAA TATGTTCGAG TTGACCATAA CCATTTTGGG | 3000 |
| 45 | CTAAaATGAT GAGCGTGtCC TCATGTGCAa GATGAGTTAA ATGAGGAATA ACTGCATCAa | 3060 |
|    | GTTGATGTGT TTTGACTGCA ATAATAATAA CATCAaATGT GTTTGTGACA TCTTCATAAC | 3120 |
|    | CTTTCACAAC AATATCTTGT GCAGGTGCAT GTGGTACAGT ATAATATGTT ATTGTTTTGG | 3180 |
| 50 | CGTGTCTCCC GATAAGCGTT GTATGAGGCA ATGATTGTTG TAATTCATAG GCAATAGTTG | 3240 |

## (2) INFORMATION FOR SEQ ID NO: 425:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 796 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 425:

AGAACGAACC TTTAATACGT ACGTGTGAC CACGAACGT CATGACAAAT TGATAAAACG 60  
 AATAGTTTTT CATTAGTTCA TTGTCACATC AATCACTTTT GTkTCACCTT TAATCACAGC 120  
 ATTTTCATCA TAAATATTAA TTGAAGCTGC TTGATCAGTG TTAGTAATTA TAATTGGTGA 180  
 AATTACAGAT TTAGCGTTAT TATTAATATA TTCAAGGTTG AATCTTACTA ATGGATCTCC 240  
 GACGTTAACT TCGTCACCAC TAGACACTAA CACTTCAAAT CCTTCACCGT CTAATTGAAC 300  
 TGTGTCTAAA CCGATATGAA CTAATAATTC TAATCCGTTA TCTGCTTTTA ACCCAATCGC 360  
 ATGCTTAGTT GGAAAGACAT TGTCAACACG TCCTGCAATT GGAGACACAA CTTCTCCTTC 420  
 AGTTGGATTA ATACCAAAAC CTTCGCCCCAT CATTTTTTGT GCGAATACAG GATCTGGAAT 480  
 ATCTTCAATT TTCACGAATT CTCCAGTTAA TGGTGCATAA ATTGCGATAT CTTTCTGAAC 540  
 TTCCTTGCCT TTCCGAATA ATTTTTTAAA CATACTTTCC ACTCCTACTT ATCAAAATGT 600  
 GATATTAAAT CGCCATAACC CAATCTTCT AACTTTTCAT ATGGAATAAA TTGAATTGCA 660  
 GCGGAATTGA TACAGTATCT TAAGCCGCCA CTTTCTTTAG GTCCATCATT AAAGACATGT 720  
 CCTAAATGAC TATTTGATTG TTCTGAACGC ACTTCAGTTC TCAACATACC AAATGATTTG 780  
 TCGACTAATT CTATAA 796

## (2) INFORMATION FOR SEQ ID NO: 426:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3393 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 426:

ATCCAGCAAA TCTTTCTTAT CACGTTCTGT AATTTTCTTA GTATCCATCT TGATTAGCTT 60  
 TGATAACTTT TCAGCCGTAT CCAACATTTT CGATTGTGTT GTTTTTCGAC CCCTAGTATA 120  
 TGTAATAGCC ATTTTAGAAG CATTATCAAC TAAACTTTT CCATTTCTGT CTAAAATACG 180

|    |             |            |            |             |            |             |      |
|----|-------------|------------|------------|-------------|------------|-------------|------|
|    | ATGTGAGCCT  | TGTGCGATTT | GTAAATAACC | TAAACGTAGT  | ACTAGTACTG | CAAAAATAAA  | 300  |
|    | TACAATCACA  | CCAAATATAA | AGTTAATTCT | CTTGTTAATT  | GTATTTTGAA | CGATTTTCATC | 360  |
| 5  | ATTTGATTTT  | TCTTTTAGTC | TTTTTAACAA | AACTACCTAC  | CTCTATTCAA | AGTCTTTCAC  | 420  |
|    | TTTAAATCAT  | ATATGAATTT | AGAAATTATT | TCTATCTTTT  | TGACAAAAAA | ATAACGGTCT  | 480  |
|    | CATTTAAGAG  | ACCGAACAAG | TAATCATACT | TTATTTTGTT  | GCATTATATA | ATTTCGTCAAC | 540  |
| 10 | TTTTTCCCAG  | TTAACTACAT | TCCAAAATGC | GCCAAATGTAG | TCAGGGCGTT | TGTTTTGATA  | 600  |
|    | TTTTAGGTAA  | TAAGCGTGTT | CCCATACGTC | TAAACCTAAA  | ATAGGTGTTT | TACCCTCAGT  | 660  |
|    | TAATGGATTA  | TCTTGGTTTG | GTGTAGTCAC | AATTTCTAAC  | TGGCCATTGT | TTACGACTAA  | 720  |
| 15 | CCAAGCCCCA  | CCTGAACCAA | AGCGTGCAGC | TGCTTTGTCA  | GCAAATTCTT | TTTTAAATTC  | 780  |
|    | TTCTAAAGAA  | CCCCATTGTT | CTTTAATTTT | TTCTACTACA  | GTACCTTTTT | CTTCTGAGTT  | 840  |
|    | TGGTGAAAGT  | AACTCCCAGA | ATAATGAATG | GTTTAAATGT  | CCACCGCCAT | TATTACGTAC  | 900  |
| 20 | AGCAGTTTGG  | ATGTTAGCTG | GTACACTCTC | TAAATTAGCA  | ACAATTTCTT | CAATAGATTT  | 960  |
|    | AGATTCTAAA  | TCTGTACCTT | CTACTGCAGC | ATTTAATTTT  | GTAACATACG | TGTTATGATG  | 1020 |
| 25 | TCTGTCATGG  | TGAATTTCCA | TAGTTTCTTT | GTCAAAATGT  | GGTTCTAATG | CATCAAATGC  | 1080 |
|    | GTATGGTAAT  | TTTGGTAATT | CAAAGCCAT  | AAATAATCAT  | CCTCCTAAAA | TGTCTGTAAG  | 1140 |
|    | TAAATAATAA  | CAAGCAGTGA | CTGGTTCAAC | AAAGAATTTG  | CTTAAATTCT | ACTACTTATT  | 1200 |
| 30 | ATTTTCTCTA  | CTCATTTAAT | ATAACTCAAA | TCAAAAATAA  | TTAAACATTT | TGTATATAAA  | 1260 |
|    | AAGTTAACAG  | ATTTGCCATA | AAATCATACG | AACGGAGTAT  | GAAATGAACC | TTTATCTTCT  | 1320 |
|    | ATAATTTAAA  | AAATGAGATT | TATGCATACA | TCGGACCAAA  | TGTGCATAAA | TCTCATTTCT  | 1380 |
| 35 | TTATATTAAT  | CTTGGCAAGA | CTCACATACA | CCATAAACTT  | CAAGTTTGTG | TTTGTGAATA  | 1440 |
|    | TTAACACCAG  | GTAGTGATAA | TTTTATCTGA | TCTATTGGAC  | AATAATCTAT | TACCTTTGTA  | 1500 |
|    | TCTCCACACT  | TTTCACAGAT | AAAATGATGA | TGATGATGGT  | TTGTACAAGC | GATTCTAAAC  | 1560 |
| 40 | TTCATTTTCAC | CATCAAGTTC | TGTATTTTCA | ATAATTCCTA  | AATCTTTAAA | TAAGTGCAGG  | 1620 |
|    | TTTCTATATA  | TTGTGTCGAA | TGAAATTCCA | GGATAATTTT  | CATCCATAAC | TTGTTGTATA  | 1680 |
|    | TACTTTGCGT  | TTATATACTT | ATCTTCTTCG | ACAAAAATAT  | CTAACATATC | TTTACGTTTA  | 1740 |
| 45 | TCTGTATATT  | TTAAACCGTT | CTCTTTTAAA | ATTTTAATAG  | CATCATTTGT | ATTCATTGAT  | 1800 |
|    | ATTAGCTCCC  | TTTTTAAACT | TCATTGCGAT | TTTCTGATAA  | GCCATTGTAA | TCATAAGTAA  | 1860 |
|    | AATAACAAGT  | AGAACTACAA | TTACACCACC | CGGAGAAATG  | TCCATATAGA | AAGCTAGGAC  | 1920 |
| 50 | TAAGCCTAAT  | ATTACTGATA | ATTCACCTAA | AAATACACTT  | AGTAATATCA | ATTGCTTAAA  | 1980 |

|    |  |      |
|----|--|------|
|    | TATCCCTACA ACACGCATTG AGGCAGAAAT AACCATCGCT ACAATAACAA TAAATAAAAA  | 2100 |
|    | TTGAATCCAT TTAGGAATGC CAATGACTTT ACTATATTCC TCATCAAATG ACAATATAAA  | 2160 |
| 5  | TAATTCTTTA TAAAACAATG TAATAAACAG AACAACTATG ATGGCAATGA CAATAATCGT  | 2220 |
|    | TGTTAAATCA CTTATATTCA CTGCGCTTAT TGAGCCAAAT AGCAATCCAA CAATTTCTTG  | 2280 |
|    | ATTGAACCCA TCAGCTAATG AAATGAAGAT TGCACCTCAAG GCGATACCAG CACTCATTAT | 2340 |
| 10 | AATTGGAATA GCAATTTCTT GGTAAGCAGT GTATGACGTT CTTAATTTTT CAATTAGAAG  | 2400 |
|    | CGCACCTACT ATTGCGAATA AGATTCCAAA CCACATTGGA TTAATAAATA CTAGTGTTGG  | 2460 |
|    | CATAATAGTA AGTAAAAACA TACCGAAAGA TATACCACCT AAAGTTACAT GACTTAGAGC  | 2520 |
| 15 | ATCAGCTWTA AGTGATAGTC GTCTAACAAc GATAAAAGCA CCGaTTAGAG GCGCAATAAA  | 2580 |
|    | ACCTAtCAAG ATAcCACTAA TTAAAGAGTA CCTCATAAAA TCAAAATTCA ATAATGCATC  | 2640 |
|    | TATCAATTGT GACACGCCTT TCCATTTTAA ATAACTCAA ATCTTTATTA ATTACAACAT   | 2700 |
| 20 | TCTCGATTAT GCTGATGATC GACAAAACGT ACAGGATGTC CATAAATTTT TGAAATTTCA  | 2760 |
|    | ACTTCATCAA GTGATTTAAA CTCATCAGTT GTACCATGGA AATGCAAATG CTTATTTAAA  | 2820 |
|    | CATGCTACTT CAGTAGCAGT ATCTGCTACA ACACCGATAT CATGAGTAAC TAAGATAATG  | 2880 |
| 25 | GTGATACCTT CTTGTTTTAA TTGATCTAAA GTATTATAAA ATTCACTTAC ATGTTTTGCA  | 2940 |
|    | TCAATACCAT TCGTTGGTTC ATCAAGTACT AATACTGcAG GTTCTGAAAT CAATGCTCGA  | 3000 |
| 30 | GCAATCATTa CACGTTGTTG TTGACCACCT GATAATTCTG CTATATTTTT ATGAATTAAA  | 3060 |
|    | TCACTTATAT TCAGTCTTTC TAGTACTTTA ATCACTTTTT CATTATCTTT GCTATTAAAT  | 3120 |
|    | GTTTGGA AAA GACGTTTTGT CTTTGTTAAT CCGCTTAAAA CAACTTCTTT AACACTTGCT | 3180 |
| 35 | GGGAAACCTG AATTAAAGGC ATTTGCTTTT TGTGATACAT AGCTTAATTT AATTGATGTT  | 3240 |
|    | TcTTATTTTT AAAATCAATA CCTTCAACAA AAATCTCACC ACTTTGTAAA GGTAATAACC  | 3300 |
|    | CTAGAATCAA CTTCAATAAT GkTGATTTAC CAGCACCATT TGGkCCAACA AwTGctAAAA  | 3360 |
| 40 | ATTCACCTTT ATTTATTTTG AATGnnnTAT ATT                               | 3393 |

(2) INFORMATION FOR SEQ ID NO: 427:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1123 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 427:

|    |  |      |
|----|--|------|
|    | CCCTGTTTCT TAGCCTTTTC GTATATGCGT TCATAAGAAG AATTCTTTTT GATTTTCAGAT | 120  |
|    | TGTAAAGCAC TGTTTTCACT TGATTGTTTA TCTATTTTAT AATCTAAATC TGCAATCTTT  | 180  |
| 5  | CCTCGCGTAT CATACGCATC CATTTTAAAA GATAGCATAT AAATACTTAA CATAGCAATT  | 240  |
|    | ACAGTAATCA AAGTTATGTA TAAAACTTTT TCAAATTTAG TTAATTGTAC AACCACTTTT  | 300  |
|    | CTCGAAACAG TCTTCTTTTC GGGCTTAGTT TGTGGTTGTT GCTTCGGTAT ACTATTATAA  | 360  |
| 10 | ACTTGTTTCGT CATATGGTTG GTACACTTTT TCTACAGCCA TTATAAATTG CTCCTTATTT | 420  |
|    | AAGTATTTCA GCTACACGTA ATTTCGCGCT TCGTGCTCTG TTATTGTCAT CTAAATCTTC  | 480  |
|    | TTCTGTAGCG GTAATCGGTT TACGATTAAAC ACGCTTTAAC TTAGGTGTAT ATGCTTCTGG | 540  |
| 15 | TATAACTGGT AATCCTCTTG GTACCTCTGG ACCTTTTTCA TATTCTTGGA ACACCTGTTT  | 600  |
|    | ACATAAACGA TCTTCTAAAG AATGGAAAGT GATTACCGAA ATCCTGCCAT CTACTTTCAC  | 660  |
| 20 | TAATTCATC GCTTGTTCTA TTGAATCTTC AAAAGCTGAC AATTCATCGT TTAGTGCAAT   | 720  |
|    | TCGTAGTGCT TGAAATACTC GTTTGTCAGG ATGTCCGCCT TTTCTTCTTC CTTTTCAGG   | 780  |
|    | AATACCTTCT TTTATAATGT CAACTAATTC TAATGTTGTT GTTATTGGTT GTTGTTCGCG  | 840  |
| 25 | ATGTGCTTCG ATTCTTCGAG CTATCTGTTT TGAAAATTTT TCCTCGCCAT AGCGATAAAA  | 900  |
|    | AATCTTCACT AACGCTTCAT ATGACCAATT GTTAACAATT TCATATGCTG TTAGTTCTTG  | 960  |
|    | TGTTTGGTCC ATACGCATGT CTAATGTTGC GTCATGGTGA TAACTGAATC CTCGTTCTGG  | 1020 |
| 30 | AATGTCGAGT TGTGGGCTTG AAACACCCAA GTCGTAATAA ATTCCATCTA CTTTTTCAAT  | 1080 |
|    | GTTTAAGTCT TTTAATATTT GAGTTAATTC ACGGAAGTTG CTA                    | 1123 |

(2) INFORMATION FOR SEQ ID NO: 428:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 838 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(x1) SEQUENCE DESCRIPTION: SEQ ID NO: 428:

|    |   |     |
|----|---|-----|
|    | TATATCCTCC AnACCATAAA AATGGAATTA TAGTGAAGAC CGCTATGATC CAGGATGACC | 60  |
| 45 | ACGTATTATA GAATCTTTCg ATAGAGAAAC GAATCaACGT ATCCgACATC aCGAAATGAA | 120 |
|    | ATTAGAAGAT TATAAAGATG AGTTAAGAAG AGAATATCTA AAACAATCTG ACAGAATTGA | 180 |
|    | AGGAGATGAA TAAGCGTGGG ACTTGATTTT AGTGGTTTAC CAGATTTAGC AGTATTGGAA | 240 |
| 50 | CAAATGAAGG AAAAAGAACA GATTAGTGAG GTTATTGCGC CTGAACATGT TCGTATGCAT | 300 |

CATTTCAAAA AATTTGAAGA TGATTTTAAA AATGCGGCAC AAGGGGCTTG GGTGAAAAAT 420  
 GCCACAGACG AATTAAAAGA TATTAGTAAT GATTTAGAAA AAATTCAAGA TATTAAAGTA 480  
 5 TAAAAAGGTA TTAAGAAACA CAATAAGTAT ATAATCCATT TAATAATAAA TGAATTATAT 540  
 AGTTCATAAT TTCGACTATA AGTGGCTATT AGCCATTATT TTTCGGGATC TATGTCAAAT 600  
 CGGACTAATG AATTCAATAA TGGAAGTTAA GCAACCAATC TTTGTTTAAAC TTCTTTTTTA 660  
 10 TTTTTTGGA AATAAAGTTT TGAACATAAT AAAATTTGAT TATGTTTTAA CGAATTTTGA 720  
 TGTTCCTTGA ACTATATATC ATCTAGTCGT CATTTACAAT TGGTAAATAT GACTTCAAAC 780  
 15 TGkATGAAGG TGATGGCGAT TAAAAGGCTC ATCCGTAGGT TCTAAAGAAC TAGAnTTT 838

## (2) INFORMATION FOR SEQ ID NO: 429:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1150 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 429:

nGTGTTCAAA TAATAGAATG GCTAATACCC CAACAATAAA TAGGAATAAA TATGTTGATG 60  
 TCGTAATTTT AGTAAATAAT GAAAATCTAA AATTAGTAAC CCTATTTTGA ATATAAGCTT 120  
 30 TAACTTCTAA TAATACTGGG AAGCCGATTG ATCCTAAAAT TATTAAAAAT ATAACTATCG 180  
 CTTGTACAAA ATAATCATGT GCATAAGGAA TTAATGACTT ACCTGTAATA TCTAATCCAC 240  
 35 CATTGGTAGT GGCAGAAATA GAAACAAAAA CACCTTG CAT GATTGCATAT TTAAATCTG 300  
 GATTATCTCG ATAAAAGTAA AATGCTAATA ACATGGCTCC TACGAGTTCTG ATTACAAATA 360  
 TTGATTTTAC AATATCAATA ATCAATTTGA CGGTACCACT CATTGTGTTT TTGTTATTAT 420  
 40 CTAACATAAT TAACTGACGT TCTCTAATTC CAATATGTTT ACCTAGTACC ACCCATAACA 480  
 TCGTACCAAT TGCCATGACG CCAATTCCAC CAATATTTAA TATCACGAGG ATAATTAATT 540  
 GTCCAAATGT AGAATAGGTA TCGACAATAC TTATCGGAGA CAATCCAGTA AACTAATTC 600  
 45 CGGATACGGC AACAAATAAT GTGTCAATTG GATTTACTTC TACACCTGGT TTATGaaCAT 660  
 ACGGTAAGTT TAATAATAAA AATGCAATGA CAATTGCGAC GATATAGTAC AATACAATAC 720  
 50 CTTGTTGAGG GCTTGATCTT TTAAAAACT GGCTAAAAAT TGACACGTTG TTCACCTCAA 780  
 CATTATTTTA GTTTAATATT AATTTCTTTC TCTTTACCAT CTCTATAAAT CTTCCGCTGA 840  
 ATTGATTTCA AGTCATCTTT ATGACTAAAT ATAATCTGCC TAAAGCGTAA ATCATCTTCT 900

AAACCATTTGT TGTCAACTTG ATCTACAACA ACACCGTTCT TAACTTTTCC TGGCAATTTA 1020  
 ACTGCTTGTC TTTCAAAACT ATTTAGACTG ACAATATTCT TCATTTTAAC ACCTACATCG 1080  
 5 GGATAGTCAA TTTTACCTTT tGTTTCTAAA TCTTTTACAA TCTTTtGTAC TTCATTAAaCA 1140  
 GGtATTGCAA 1150

## (2) INFORMATION FOR SEQ ID NO: 430:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 797 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 430:

20 AAGAATATTT AGGATTTTAT GTTTCGCAAC ACCCAGTAGA TAAAAAGTTT GTTGCCAAAC 60  
 AATATTTAAC GATATTTAAA TTGAGTAACG CGCAGAATTA TAAACCTATA TTAGTACAGT 120  
 TTGATAAAGT TAAACAAATT CGAACTAAAA ATGGTCAAAA TATGGCATTG GTCACATTAA 180  
 25 ATGATGGCAT TGAAACTTTA GATGGTGTGA TTTTCCCTAA TCAGTTTAAA AAGTACGAAG 240  
 AGTTGTTATC ACATAATGAC TTGTTTATAG TTAGCGGGAA ATTTGACCAT AGAAAGCAAC 300  
 AACGTCAACT AATTATAAAT GAGATTCAGA CATTAGCCAC TTTTGAAGAA CAAAAATTAG 360  
 30 CATTTGCCAA ACAAATTATA ATTAGAAATA AATCACAAAT AGATATGTTT GAAGAGATGA 420  
 TTAAAGCTAC GAAAGAGAAT GCTAATGATG TTGTGTTATC CTTTTATGAT GAAACGATTA 480  
 AACAAATGAC TACTTTAGGC TATATTAATC AAAAAGATAG TATGTTTAAT AATTTTATAC 540  
 AATCCTTTAA CCTAGTGAT ATTAGGCTTA TATACTTTy ATCAACTAAT AAATTATGAT 600  
 ATAGTAAACT GATGGTTAGA TATTTyTyAA CCATCAGTTT GCGTktATAT TAGTTTTTTA 660  
 40 TGCTTATTAT TTTTATGAGT TTCACTTTAC ATTATTGATT AATCCATAAG AATAATTAGC 720  
 ACAAAAAGCA GTATACATAA ATTGAGTAAA GAATTTTGTC GATATAACCG nGCGGAAAAA 780  
 TAATAAChTT TTGGATn 797

## (2) INFORMATION FOR SEQ ID NO: 431:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1466 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

|    |   |      |
|----|---|------|
|    | TTTCCAAGAG AAGTTGCGGA AGTAATTAAT AAAACGCATC ATAATAAATT GGTCATTTTCG  | 60   |
|    | ATGATTTTCGk CACAAATCGA TGCGGATAGA ATGGATTATT TACAACGTGA TCGGTATTTTC | 120  |
| 5  | ACAGGTGTAT CATATGGTGC TTTTGATATG GAGCGTATTT TAAGATTAAT GCGACCTTCT   | 180  |
|    | AAAGATGAAG TACTAATCAA AGAAAGTGGT ATGCATGCAG TTGAAAACCTT TATTATGAGT  | 240  |
|    | CGTTATCAAA TGTATTGGCA AATTTACTTC CACCCAGTTA GTCGTGGTGG AGAAGTGCTG   | 300  |
| 10 | CTTAATAAATT GcTTGAAACG CGCAAAACAG CTTTATAATG AAGGCTATGA ATTTAAGTTG  | 360  |
|    | CATCCACATG ATTTTATTCC ATTTTTTTGAA GAGACAGTTA CGATTGAACA ATATGTTGAA  | 420  |
|    | CTCGATGAAG CGGTAGTTAC GTATTATTTG GAAAAATGGA CAAAAGAAGA TGATGCTATT   | 480  |
| 15 | TTAAGTGATT TAGCAAGTCG ATTTATTAAT CGAGACTTAT TTAAATATAT TCCATTTGAT   | 540  |
|    | GGCTCAATTA TTACAATATC AGAACTGCAA GAAGTGTTCG AAGCAGGTGG TATTAATCCA   | 600  |
| 20 | GATTATTATT TTGTGAGTGA AGCATTCTTCT GATTTGCCAT ATGACTATGA TCGACCGGGG  | 660  |
|    | TCAAATCGCA AACCGATTCA TTTATTAAGA CAAGATGGTA CGATTAGAGA AATAAGCAAT   | 720  |
|    | CAATCATTAG TCATTCATAG TATTACAGGC ATTAATCGCC AAGACTATAA ATTATATTAT   | 780  |
| 25 | CCTAGAGAAA TGGTTGCAAA GATTAAAGAT AAGACAATTA GAGAAGCTAT TGAAAATTTG   | 840  |
|    | ATTAATGAGC TTAATTAAAC AGGGCTAAAA TTGTTATCGT TAAATATGGA GGTATATCA    | 900  |
|    | TTGTCTGAGA AAAAAGGCTT TAATTTTAAT ATCATAAAAA ATGACCCTCT AGATGGTCAT   | 960  |
| 30 | AAAGGTACAA ATATTGGTTC AATTAGCTTA GACAATATTG CACCAGTTTT TATCGATGTT   | 1020 |
|    | GCTAACAAAG AAGCATTAT TATATTGGA GGCATGCATG CTCGTGCCAA AGTTGAAAAA     | 1080 |
| 35 | GGTGTGAAAT GGATTACTGA TAAAGCTGCT GTTGAAGGCG ATGAAGCTAA AGaATATTGG   | 1140 |
|    | TTGTGTTGGG TAACAACAGA ACGTAATGAA CAAGGACCAT ATTACGCTGG TTTAACAGCG   | 1200 |
|    | TGCTATTTAT TAGTGAATAA AGCAATTCGT CGTGGTTATA AAAGTATGCC TGAACATGTT   | 1260 |
| 40 | AATATGATGG ATAAATCAAT GAAACATCAT ATTATCATAG ATCAAATTGG TGACGAGAAT   | 1320 |
|    | AAAGCTATTT TAAAAGACTT TTTAATGAAC CATGATGAAG GTATGTGGAA GCATTCTTCT   | 1380 |
|    | GATGCTTTTAC ATCAAGCATT TAATTAAATA TTAGAACTA AAATTTCCCA ATTAATCTAT   | 1440 |
| 45 | AAAGATATGA TTCATTTCTC AATGAC  | 1466 |

(2) INFORMATION FOR SEQ ID NO: 432:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2304 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 432:

|    |  |      |
|----|--|------|
|    | TTGTACGAAT ACAAAGTTGC ATTAATATAG AATCATTAT GCTTTTAAAT ATCACAAAAC   | 60   |
| 5  | AAATTGATTA AACTAGCTAA AATAGTCAAA ATTGGAATCA AGATTACATA AATATCATAA  | 120  |
|    | CCTCTAGATA TTAGTATACA TAATATAATT AGCGACCCTA TTATAATTGC TAAATTATAA  | 180  |
|    | GCCAAACTAA TTTTATATTT CATTTCAATT CCCACCTTAA TAGCATTAT TAAAATTCTA   | 240  |
| 10 | TAATGTTTAC ATAGACTTCT TAACAACTT TAACCCAGCT AAGCTAAGTA TTGAAATAAT   | 300  |
|    | TACACCTCCT AATATAAATA TATTACTTAA GCTTAGTAAA GGTATAATTA TACTTATCAG  | 360  |
|    | TCCTAAAGAC AATGTATCCG CTGCATAATT CGATGTAGAT GAGATACTAA ATACTTTCCC  | 420  |
| 15 | CATCAAATGA TTTGGCGTTT TTATTTGAAT GGCAACTGAT CTTGTTAGTC CCTCTATAGA  | 480  |
|    | TTGTCCAAGT CCCAATAATG TTGCACCTAT ATATAATATC GCCACACTTG GAAACACATT  | 540  |
| 20 | AATAATCGAT AAGCCAATTC CCCAACTAA AACACCAATA CTAAATTTAA AGATTAATCG   | 600  |
|    | CTTTTCTGAC AGCAAACCCA TAATCAATGA CATTAATAAA GATGCTATAC CTAAACATGA  | 660  |
|    | TGTAGCTAGT CCATATACAC CAACGCCCTC TTTTAATATA TTGGAAATAA ACAATGGTAA  | 720  |
| 25 | TACAACACGC CAAAGGCCAG TATTAATCAA TATGCAGGCA AATTGGATGA TTATAATAAA  | 780  |
|    | TGGAATTTCT TTAGATTGTT TCAAGAATTC CCAAGTTTCA GAAAAATCTT CTTTGTAGTG  | 840  |
|    | TCTATCAATC ATGTTGTTAT TTGTATATTT TAAAAGTGCA TTAAAAATAA ATCCTAAAAA  | 900  |
| 30 | TAGCAATATA CTACAAATAA AAAAGACGCC AACATTACCA ACTAGTATTA CAATGACACC  | 960  |
|    | AATTAAAGCA GGTAAAAATAA TATTTGAGCC TCTTTGCAAA CTATCGATTA ACGCATTACT | 1020 |
| 35 | TGTTGCTAAA TGCTCCTCAT CAATAATTTT AGGAAGAATT GCCCTAAACG CAGGATCCGT  | 1080 |
|    | ATAGCAGTTA ATAATGGTGA TAGCTGTAGA TATGGTTAGA AGCGTCAGAT AATTTAAATT  | 1140 |
|    | TGATGTTATT GCAAGTAAAG GAATAATTAT TATAATCAAA CTTAGTATAA GATCAGATAG  | 1200 |
| 40 | ATAAAGTATT TTCTTTTTAT TATGTTTATC AGAATATGCG CCACCGAAAA TACCAAATAT  | 1260 |
|    | AATAAATGGA AGTGTTTTGAC TCATAACCAT CATTGATAAT TTTAAAGATG ATTGGTTTGT | 1320 |
|    | CAATTCAACA GTAAACCAAA TTATTTGTAA CGAAAACAGC ACAAACAAC TCCGACGTAA   | 1380 |
| 45 | GATATTACCA ATCAATAAAT ATGTAAAGTT TCTATTTTTC AAAACTTCTA AATACAACAT  | 1440 |
|    | ATTTATCACC TCTCATAAAA ATAATTGAAT GCATCCACCA GCTTTTTTAG ACCTTCTTCT  | 1500 |
| 50 | AAACTCTCTT TATCCAAAGC GCAATTAATT CTAATATAAT TTAGTCAGTT AAATATCAAT  | 1560 |
|    | TATTTTGAAA TATACATACT ACTTGAAACA CCATACATAA CCCCCAAAT GACTACTCAG   | 1620 |

TCATTCTCAT CATATTCTAG GTTGTMTTTTA ACAAACTAAA TATAGTGAAT GCAAATCAAC 1800  
TATTATTTAA ATTATGAATT ATTTTAATTC TTTCTTCTAC GAGCCAATAA CATTAATCCA 1860  
5 GCAATTCCAA TTATACTACT AAAGATCAAA CCTTTTTCG TGCTTTCTAA ACCTGTTTTT 1920  
GGTAATTCTG CTCGTTTTTT CTCTTGATTA GCTACTGATT CTTTAGCAAT TTTAGATTTT 1980  
TTAACTTTAT CATTTTTATC CATTGAATGA ACTGGGCCAT TTGGTTTTGC TCTGTCTTTC 2040  
10 GATAATCCTG GATTGTTAGG ATTTACTGGG CCACTTGGAT GAGTTGGTCT GCTCGGCTTC 2100  
TCTGGGTTTT CAGGTCCTTT TGGATCTTTT GGTTCCTCTC CACCGAACTC TACAATCTTA 2160  
TCTACTGGTT GTTTGTGTGAT CTCTTCTGTT GGTGACCCT CGCCAACTTT TTCACCTGTT 2220  
15 AATGGGKTCA CTGTGAWTGG TGkTGTGAWT GTCyTACTTC CTGGkTGTCC TTCTTGTTTC 2280  
ACTCGCTCTT CACCAGGTTG TAAT 2304

(2) INFORMATION FOR SEQ ID NO: 433:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4733 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 433:

GTCTTAATAT TTTACAAGAT ACAGCCTGAC AATATTTATA TTACAAACCA ATATGGTAAA 60  
GAGGCTGTGT CTCGATTAAA AAGAATTTTA GAGCAAAGTA TACCTAATAA AGAATATATT 120  
35 GATTTATCAG AGATATCATT AATTACATTT TTAAACCAG AATATAATAA ACAACATGTG 180  
AATGAGGAGT TTAATTCCTT ATCTTCTTCG AAAATAAAGA ATTTAGCCAA AGAAAATGAT 240  
GGTATTATTA TTTATTTAAA TTTTAAGGAT GTTAATTATC AACTGaTAaG TGAAGGCAAT 300  
40 ACTTTTTTTT CTGCAAAACC ATATTTGCAT TGTGTGTTCA ATAAAGATAT TTTAAATATG 360  
GATAAAGTTG ATATAGAAAA TTTTTTCAAA AGTATAGAAG TCAAATACAG TAAATAAGAT 420  
CAATTATTGA ATCCACCGAC CAGCAGATTT TTTTAAAAA TTAATACCCC GTTAATACCC 480  
45 TTTGCTTCAA TTTGATGAAA ATCAATGAAA TTCAAAATTG AAGAAATCCT TTAATATCAA 540  
GGTGACGAC AGTCTATATA ATCATGCGAA ATTCTAAAAT TTTCTGAcGT AAAAAACAA 600  
ATTCyTAAAG CAGCTCGTCG TTCACCTCAA TTCTCAAAC GTTAATTGTC GGACGATATA 660  
50 TATACAAAAC ACCTCGATGT TATGTCGAGG TGTTTTTTTG CGTTTGTGTG GGAATATGG 720  
AATAGAGTAT AAATGAATTA ATGTCTCAGG TATAGAATTA ATTCAACTAT GAATTATTGA 780

|    |   |      |
|----|---|------|
|    | TTAGCTTGCG GAGACCGTAC GATAGTGTTT TAATAATAGA TATTCAAGGG AAAGAGCTAT | 900  |
|    | CGGATGATAA CCAGATGATA ACTCAAGAAC CATGTTTTAA GAGTGTTATC AAAATAAGGA | 960  |
| 5  | GTGACTTAAT TGAAAGATTC TATATTTTGG AAGAAAGCTT TTATTYCTGT TTATTTTATT | 1020 |
|    | GTTGSGATGC TGGTGTTTCT ACTTTTTAGG TTTTATATTA AaACAGATAA CTTTTCTATA | 1080 |
|    | TATTTAATGA GTATCTTCTT AATTTGTTTA GGAAGTGCTT CTATCATTTA TAACTATAAA | 1140 |
| 10 | ACCAATCGAT AAATATAAGT ATGAAATGTA TAAGTCACAG TTAGATCTAA GTCTTGCTGT | 1200 |
|    | GGCTTTTTAT ATCTCCATAA AACGACAAAT TCAAGCCCGA CATAAAACAG CATTTTCAGC | 1260 |
|    | CCACCATAAA ACGACAATTT CAGCCCGCCA TTGACTAAAC ACCACATCCC AAAAATATCG | 1320 |
| 15 | TAACAATCCT CTACATCAAT CAATCCAACA TCCCTCATAA TCACAACGCA CAAAATCTAT | 1380 |
|    | TCATGCATTT TTGGAATACT TAGTATTACA AATAACGATT TTTATTATC TAACAAAGGT  | 1440 |
| 20 | TATATAATGT ACTGAAGGCA ATTTTTATGT ATTACAAATC TAATCGTACA TGTAATAATT | 1500 |
|    | TGATAAACAT CATTAAATTT GCGTAACTAT CATTAGATTA CAAATCACAA AGTAATTACA | 1560 |
|    | TGTAATACAC ATCTATACAT CACATTTGAA GGGAAATGaA TATAAATGAC TGATAAAAAG | 1620 |
| 25 | TACACTGCAG CCGATATGGT TATTGATACT TTGAAAAATA ATGGGGTAGA ATATGTTTTT | 1680 |
|    | GGTATTCCGG GTGCAAAGAT TGAATATCTA TTTAATGCTT TAATTGATGA TGGTCCTGAA | 1740 |
|    | CTTATTGTCA CTCGTCATGA AAAAAACGCC GCAATGATGG CGCAAGGTAT TGGAAGATTA | 1800 |
| 30 | ACAGGCAAAC CGGGTGTAGT ACTTGTTACA AGTGGTCCTG GTGTAAGTAA TTAACTACT  | 1860 |
|    | GGATTATTAA CCGCAACATC TGAAGGGGAT CCTGTATTAG CGTTAGGTGG CCAAGTGAAa | 1920 |
| 35 | CGnAnATGAT TTATTACGAT TAACGCATCA AAGTATTGAT AATGCTGCGC TATTAAAATA | 1980 |
|    | TTCATCAAAA TATAGTGAAG AAGTACAAGA TCCTGAATCA TTATCAGAAG TTATGACAAA | 2040 |
|    | TGCAATTCGA ATTGCTACTT CAGGAAAAAA TGGCGCAAGT TTTATTAGTA TTCCGCAAGA | 2100 |
| 40 | CGTTATTTCT TCACCAGTTG AATCTAAAGC TATATCACTT TGCCAAAAAA CAAATTTAGG | 2160 |
|    | AGTACCGAGT GAACAAGATA TTAATGATGT CATTGAAGCG ATTAAAAATG CATCATTTCC | 2220 |
|    | TGTTTTATTA GCTGGTATGA GAAGTTCAAG TGCAGAAGAA ACAAATGCCA TTCGCAAATT | 2280 |
| 45 | AGTTGAGCGC ACGAATTTAC CAGTTGTAGA AACATTCCAA GGTGCAGGTG TAATTAGTCG | 2340 |
|    | TGAATTAGAA AATCATTTCT TCGGTGCTGT GGGCTTATTC CGCAATCAAG TTGGTGATGA | 2400 |
|    | ATTATTACGT AAAAGTGATT TAGTTGTTAC AATCGGTTAT GATCCAATTG AATACGAAGC | 2460 |
| 50 | TAGTAACTGG AATAAGAAT TAGAAACACA AATTATCAAT ATTGACGAGT TCAAGCTGAA  | 2520 |

|    |  |      |
|----|--|------|
|    | CAATTAAGAA CACATATTGA TGAAGAAACT GGTATTAAAG CGACGCATGA AGAAGGAATT  | 2700 |
|    | CTACATCCAG TGGAAATTAT TGAATCTATG CAAAAGGTAT TAACTGATGA TACTACTGTA  | 2760 |
| 5  | ACAGTTGATG TTGGAAGTCA CTATATTTGG ATGGCACGTA ATTTCAGAAG TTACAATCCA  | 2820 |
|    | AGACATTTAT TATTTAGCAA TGGTATGCAA ACGCTTGGTG TAGCATTACC GTGGGCAATT  | 2880 |
|    | TCAGCTGCAC TTGTGCGCCC TAATACGCAA GTTGTGTCCG TTGCTGGCGA TGGTGGCTTT  | 2940 |
| 10 | TTATTTTCAT CACAAGATTT AGAAACGGCC GTACGTAAAA ATTTAAATAT CATCCAGCTT  | 3000 |
|    | ATTTGGAATG ATGGAAAATA TAACATGGTT GAATTCCAAG AAGAAATGAA ATATAAACGT  | 3060 |
| 15 | TCGTCAGGTG TAGACTTCGG TCCTGTAGAT TTTGTAAAT ATGCAGAATC ATTTGGCGCG   | 3120 |
|    | AAAGGTTTAC GAGTTACTAA TCAAGAAGAA TTAGAAGCGG CAATTAAAGA GGGCTATGAA  | 3180 |
|    | ACAGATGGTC CAGTATTAAT TGATATACCT GTAAATTACA AAGATAATAT CAAACTTTCA  | 3240 |
| 20 | ACAAATATGT TACCTGACGT ATTTAACTAA AATAAAGATA AATGTTAAAG AGGAGTGGGA  | 3300 |
|    | GATTTTATGA CTAATGTTTT ATACCAACAT GGTACATTAG GCACATTAAT GGCAGGATTA  | 3360 |
|    | TTAAAAGGAA CTGCATCAAT AAATGAATTA TTGCAACATG GTGACTTAGG TATCGCTACA  | 3420 |
| 25 | CTAACAGGTT CAAACGGTGA GGTAATCTTT TTAGATGGAA AAGCTTACCA TGCAAAATGAA | 3480 |
|    | CATAAAGAAT TTGTAGAATT AAAAGGTGAC GAGTTAACAC CATATGCAAC TGTAAGTAAA  | 3540 |
| 30 | TTTGTAGCAG ATACAAGCTA TGAAACGAAA GATAAATCTT CAGAAGCAGT TTTTGCAGAA  | 3600 |
|    | ATTAAGGAAA AGATGTTGAG TGAAAATTTA TTTTCAGCAG TAAAAATTC AGGCTTATTT   | 3660 |
|    | AAAAAATGC ATGTACGTAT GATGCCGGCT CAAGAACCAC CTTATACACG TTTAATCGAT   | 3720 |
| 35 | TCAGCTAGAA GACAACCTGA ACAAAGTGA ACGTATGTCA AAGGTTTCAGT CGTTGGTTTC  | 3780 |
|    | TTTACACCAG AATTATTCCA TGGTATCGGA TCAGCAGGAT TTCATGTACA CTTTGCGAAT  | 3840 |
|    | GATGATCGTA ACTTTGGTGG ACATGTCTTA GATTTTGAAG TAGAAGATGT TAAAGTAGAA  | 3900 |
| 40 | ATCCAAAATA TAGAAACATT TGAACAGCAT TTTCCAATTC AAGATAAAGA TTTCACTAAA  | 3960 |
|    | GCAAATATTG ACTATAAAGA TATTGCAGAC GAAATTAGAG AAGCTGAATA ATGAATCCAG  | 4020 |
|    | AAATATAATG ACGGTTTATG AAAATTGACT TCATAATGCG CGATTTAGAA ATGATAGTTT  | 4080 |
| 45 | GTAAATATGA TTAACCATGA CTACAATAGA ACAAATATAT TTATAATTAC GTCTAAGTAA  | 4140 |
|    | TAAAATAAAT CCCTTCACTA TTAGCAGTAG TGAGGGGATT TATTAGGTTT CAGATATTTG  | 4200 |
| 50 | AGATTTGCTG TTATGTTTAG ATTATAAATT GTGGTACACA CTCATATAAA ATTTACTATT  | 4260 |
|    | GTATAGGCCA ATCTGTTACT ACGAGAAGCA AACAACAATA ATTTACAAGT TCAATAACTA  | 4320 |
| 55 | AAAAGACAAA CGCCAATTTT TCAGCGCTTG CCCTATAAAA CTATTTTCAA ATTATTATTT  | 4380 |

TTTCTTTAGA TTCACTACTT TTTTATTACC ATCATTCAAA GTAAGCGTAT AAGTTGCTGT 4500  
 TTGGGCATTA TTAATTTTTT CTGTTGTAAC ACCACGTGA GAAGCTAATT CATTTTTTAC 4560  
 5 TTTACTGTCA ATTTCTTGAT AAAGAACATT TTTATTTTCT GGAAGATAA AGTAAGTTCTG 4620  
 ATGTAATGCA GTAATACCAT CTACTGAAAT TGTGTAAGGA ACAGTGTGAT AACCATCCAC 4680  
 AGTCATTCTT TTATAGCCGT TATTACTATC TGCAGATGCT TCGTGACTCG GTA 4733

10 (2) INFORMATION FOR SEQ ID NO: 434:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1284 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 434:

AATAAATGGT AATTTTATAT CATCAACGGC TACAAATGGG GCAGTTTCAT ATATAAATAA 60  
 ACACATCTAC TCAACTGnTC TTAATTAATT AATAAATGAT TTACCAGATG ACATATAACA 120  
 25 GCCATTATTA GnTTAATTCT AATAGTTTAT TTAAATTTTC TTCGGTTGTC GCCCAACTGG 180  
 TTGCGAATCT AACAACACGA TGTTGATCAT CGTATTTTTT CCAAACAGCA AATTAACTT 240  
 TTTGTTCTAA CTCTGCTATT TTCTCGTTAC TTAAATAAAA AAATTGTTGA TTGGTTGGAG 300  
 30 AATCAAAGTA AAGACGATAG CCTTTATTTT TAAACCCGTC TTTCATCTTA TTTGCCATTT 360  
 CGATAGCATG TCTGCTTATA TTAAATATA AATTGTCCGT AAATAATTCT AAAAATTGTA 420  
 35 TGCCTGTAA CCGTCCTTTT GCTAAAAGGG CACCGTGGAT GCTTGATTCT AGTGGTAAAT 480  
 TGTTTCGGTT CATTATTTTT CGTAAAAACA ATGGCTTCCC CGCATAATGC ACCTATCTkC 540  
 GTACCACCTA TATAAAATAC ATCACAATAT TTAGCGrTgt CTTTAATAGT CATATCTGAT 600  
 40 TGGTCACTCA TCAATCCATA CCCTAATCGT GCACCATCCA TAAATAATGG AAGCTGATAT 660  
 TGCTTACATA CTTTGCATAA CTCTTCCAAT TCTGaTTTAG AGTATAATGT GCCATATTCT 720  
 GTAGGATGAG AAATATATAC CATTCCTGGG AATACCATAT GGTCTTTTTT AAAATCACTT 780  
 45 TTAAATGTCT CCATGTAAGT TTCAACATCT GAAGCACTAA CTTTTCCTTC CTTAGAGGGT 840  
 ATAGTAATTA CTTTATGTCC ACTATATTCA ATTGCACCGC CCTCATGCAC AGCAACATGA 900  
 50 CCAGTGTCTG CTGAAATGAC CCCTTCGTAA CTTTCTAACA TTGAATTAAT AACAACCTGA 960  
 TTGGTTTGTG TTCCACCTaC TAAAAACGA ATTGTAGCAT TTGGaCAGTC AATTGTATCT 1020

TCGAATGAAA TCACTACATT TCCCCCTAAA ACTAATATCA ACATTTTAAT AAGATAAAACC 1200  
 AATTTCAAAA CTAGTTCGAT ATTTAAAATG TATTATGGAT GGnTAAAGTT TGTATCGCAT 1260  
 5 TATCGCGAAG TTGnATAAAT ATAT 1284

(2) INFORMATION FOR SEQ ID NO: 435:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 1072 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 435:

ACAGCTTTTG GTAArGGAGA AAwTCAaTat GAAACAGTAT AArGCGTATT TaATCGATTT 60  
 20 AGATGGCACA ATGTATATGG GAACAGATGA GATTGATGGA GCAAnACAAT TCATCGATTA 120  
 TTAAATGTA AAAGGCATTC CTCATTTATA CGTAACTAAT AATTCAACAA AAACACCTGA 180  
 GCAAGTAACT GAAAAATTAC GTGAAATGCA CATTGATGCT AAACCAGAAG AGGTTGTAAC 240  
 25 GTCAGCGTTA GCCACTGCTG ATTATATTTT AGAACAATCA CCAGGAGCAT CAGTATATAT 300  
 GTTAGGTGGG AGTGGTTTTAA ATACTGCGTT AACCGAAGCG GGA CTGTGCA TTA AAAATGA 360  
 CGAGCATGTT GATTATGTAG TTATTGGACT TGACGAACAA GTTACATATG AAAAGCTTGC 420  
 30 GATTGCAACG TTAGGTGTAA GAAATGGtGC AACATTTATT TCTACAAATC CTGATGTATC 480  
 AATTCCTAAA GAGCGTGGTT TATTACCTGG TAATGGTGCT ATTACAAGTG TTGTAAGTGT 540  
 35 ATCGACAGGT GTATCGCCAC AATTTATTGG TAAACCAGAA CCGATTATTA TGGTTAAAGC 600  
 ATTAGAAATT TTAGGATTAG ATAAATCCGA AGTTGCTATG GTAGGCGATT TGTACGATAC 660  
 CGATATTATG TCTGGTATTA ACGTAGGTAT GGATACGATT CATGTACAAA CAGGTGTATC 720  
 40 TACGTTAGAA GATGTGCAAA ATAAAAATGT GCCACCAACG TATTCTTTTA AAGATTTAAA 780  
 TGAAGCAATA GCTGAATTAG AAAAATAGAT ATAGTCATTT TATAAAGTAG GTGAATTGAT 840  
 TTGGTAAAAA TAGTTGTTTC GAGGAAAATT CCAGATAAAT TTTATCAACA ATTAAGTAAA 900  
 45 CTTGGTGACG TTGTTATGTG GCAAAAATCA TTAGTGCCTA TGCCTAAAGA TCAATTTGTG 960  
 ACaGCcTTCG TGACGCAGAT GCTTGTTTTA TTACATTAAG TGAACAGATC GATGCAGAAA 1020  
 50 TTTTAGCGCA ATCACCAAAT TTA AAAgTAA TTGCGAATAT GGCTGTAGGA TA 1072

(2) INFORMATION FOR SEQ ID NO: 436:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 3271 base pairs

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 436:

|    |  |      |
|----|--|------|
|    | TAAAAACTTA CTTTAACACC ATTCCTTTTT AACTTTTTTC GTGTTTCnTT TnCTTAAGTC  | 60   |
| 10 | CATCCATATT TTTAATGATG TCATCTGCTG TTTTATCTTT TAAATCTAAC ACTGaGTGAT  | 120  |
|    | AmCGAATTTG TAGCACAGGA TCAAATCCTT TATGGAATCC AGTATGTTCA AATCCTAAGT  | 180  |
|    | TACTCATTTT ATCAAAGAAC CAATCATTAC CAGCATTACC TGTAATCTCG CCATCATGAT  | 240  |
| 15 | TCAAGTATTG ATATGGTAAA TATGGATCGA TATGTAGGTA TAGACAACGA TGTTTTTTAA  | 300  |
|    | CATATTTTGA TAATTCATTA AAGAAAAAGT GTACGAGTTC TTGATTTTCA TAATCAATCA  | 360  |
|    | CTGGACCGCG ATTTGAATAA AAATACTTGA ACACTTTCAT AACAGGTACA GCAGTAAGtA  | 420  |
| 20 | AGCAAGCTGC AATGACCTCG TTATTATTGT TTTTATTTC CACTAAATGT GTTTCATAAC   | 480  |
|    | CTTCAGCAAG CTTTAACTCA TAGTGGCCAA CAGTTTGCCT GaAATGACTG TATGGCATGC  | 540  |
| 25 | TATCTGTAAa GGCACCAAAC TCTTTAGCTG TTAAATTTGT AAAC TTCATT ATCATTACTC | 600  |
|    | CTATTTGTCT CTCGTTAATT AATTCATTT CCGTATTTGc AGTTTTTCTA TTTCCCCTCT   | 660  |
|    | GCAAATGgCA AAAATAATAA ATCTAATCTA AATAAGTATA CAATAGTTAA TGTAAAACT   | 720  |
| 30 | AAAACATAAA CGCTTTAATT GCGTATACTT TTATAGTAAT ATTTAGATTT TTGAATACAA  | 780  |
|    | TTTCAAAAAA AGTAATATGA ACGTTTGGGT TTGCTCATAT TACTTTTTTT GAAATTGTAT  | 840  |
|    | TCAATTTTAT AATTCACCGT TTTTCACTTT TTCAAACAGT ATTCGCCTAA TTTTTTTAAA  | 900  |
| 35 | TCAAGTAAAC TTAATTATTC AATGTTTGTT GGATAGATTG TAAATATTTA ATGATTTCTT  | 960  |
|    | CACGCGTGTT AGATTTAAAT CGCTTAACGA TTTGCTACC AATGACAATG CCATCTGCAA   | 1020 |
|    | CCTCTTTTAT ATCTGCAACA TGTGTGGTG TTCTTATACC AAATCCTGCG ACAACTGGCA   | 1080 |
| 40 | CATTGGCTAT CGCTTTAATT GACTCAATTT TTCGTTTTAA TTCTGGATGA AACGCACCGT  | 1140 |
|    | TTTGCCCTGT TGTCGCATTC ATCGTCACAG TATAAATAAA GCCTTCCGCA TGGGATACGA  | 1200 |
| 45 | TATCTTTTAT ACGTTTGTCA TCAGTAGTCA TCGCAACTAA CGATATGATT TTGACGCCAT  | 1260 |
|    | AGTGACTAAA TTGTTGTTTT AAACGCTGCG ATAATTCATA TGGTAAATCA GGAATAATTA  | 1320 |
|    | AGCCGTAGAC ACCAGTATCT CGACATTTTT CAAAAACGC TTGTTCTCCA TAATGACAAA   | 1380 |
| 50 | TAATATTATA ATACGTCATT AATACATAGT TACACTTAAT TTGATCACCA TGTTTTTCTA  | 1440 |
|    | ATTGATTGAA AATATAATCT ATCGTGATGC CTTGTTTAAT CGCTTGTTGA CCTGCTTCCA  | 1500 |

|    |  |      |
|----|--|------|
|    | GTATAAATAA TTTAGTCATT TGCAAGACCT CGCTCTACCA TATATTGTCT AATTGTTTCC    | 1680 |
|    | ATATCTTTAT CGCCACGTCC AGAAATAGTT ACTACAATAA TATCTTCTTT CGACATCGTA    | 1740 |
| 5  | GGCGCTAGTC TTTCAACATA ACTCAGTGCA TGTGCACTTT CAATTGCAGG TATAATACCT    | 1800 |
|    | TCATGTTTTG TAAAGTTGAT TAAAGCATTC ATTGCTTGTC TATCACTAGC ATTTTCAAAA    | 1860 |
| 10 | GTTACTCTAC CAATGTCGTG GTAATAAGAA TGTTCGGTC CAATACCAGG ATAATCAAGT     | 1920 |
|    | CCTGCTGAAA TAGAATGTGC TAGTTGCACT TGCCCATCTT CATCTTGAAT TAAATACATT    | 1980 |
|    | TTAGTACCAT GTAATACGCC AGGTGATCCT TTGCCAATTG CAAGTGCATG TTTATCAGTA    | 2040 |
| 15 | TCATCGCCTT GACCTGCGGC TTCAACACCG TATAATGCAA CATCATCTTT AATAAATGGA    | 2100 |
|    | TAAAATGTAC CGATTGCATT TGAGCCACCA CCGATACATG CTACAATTGC ATCCGGAAGT    | 2160 |
|    | CGACCTTCTT TCTTCAATAT CTGTGATTTT ATTTCTTTAC CAATCACACT CTGAAAATCT    | 2220 |
| 20 | CTAACAATCG TTGGGAACGG GTCTGGACCT AATGCAGAAC CTAATAAATA ATGTGTATCA    | 2280 |
|    | TCTACATGAC TTACCCAATA TTGCAATGCT TTATTAAGTG CATCCGATAA AGTCCCTTGA    | 2340 |
|    | CCATCTTCAA CTGCCACAAC CTTTGCACCA AGTAATTCCA TTCTAAATAC ATTAAGTTGT    | 2400 |
| 25 | TGTCTTTTAA TATCTTCACT TCCCATAAAG ACAACAAGTT CCATATCAAA TAATGCAGCA    | 2460 |
|    | ACCGTAGCAC TAGCTACACC ATGTTGACCC GCACCAGTTT CAGCAACAAG CTTCTTCTTG    | 2520 |
| 30 | CCCATTCTTT TAGCAAGCAA CGCTTGACCT AACGCATTAT TAATTTTATG GGCGCCTGTA    | 2580 |
|    | TGATTTAGAT CCTCTCGTTT CAAATATATT TTAGCGCCAC CTAGGCTTTC AGTATATGAT    | 2640 |
|    | GCAGCATATG TAAGTGGTGT CGCGCGTCTT ACATACTCTG ATAAATAGTA TTCCAGTTCT    | 2700 |
| 35 | CTTTGAAACT CTGGGTCTGC TTTTGCCTCT TTATAAGCTT TTTTCAACTC AATAATTGCT    | 2760 |
|    | GGCATTAAATG TTTCTGGAAC ATATTGCCCT CCATATTAC CAAAGAAACC TAATTCATCT    | 2820 |
|    | GCTTCTGTTT GTATTTGTTT ATTCATTGTC TCTATCTCCT TTCACAATAT TTACAATTGC    | 2880 |
| 40 | TGTCATTTTT TCTATATCTT TTCGCCCATT TACTTCTATA CCTGATGCAA GATCATAACC    | 2940 |
|    | TTGATGTGAT AATTTAAGTT GATTAAGTGT TTGAATATTT TCAGAGTTAA TGCCTCCTGC    | 3000 |
|    | TATCAAATAA GGTATGTCTT TTATGTGCTT CAAAATAGTC CAGTCATATG TTTGACCGGT    | 3060 |
| 45 | ACCACCATAC GACACTGAGG GTGTGTCGAT AATAAATAAA TCTACGAACC CTTTATATTT    | 3120 |
|    | ATTTATGTTT TGGATTATGT TTTTATCTnG CAGtAAAGCT TTAGTGATTT TAATGCTTGA    | 3180 |
| 50 | ATATkTCTTT TTAATTTTCTT GTAtAAAAAtC AATAGATTCTt GtGTAACTGT ATTGTGkTAA | 3240 |
|    | wTGaCGwATg CtTAAwACgT GTGCCAATGG T                                   | 3271 |

(2) INFORMATION FOR SEQ ID NO: 437:

(A) LENGTH: 1553 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 437:

|    |  |      |
|----|--|------|
| 10 | ATAATGAAAT AATACTGTGT TTTATCTGCG AAATGTA <sub>t</sub> CA TTTTCTAAT <sub>c</sub> GTTTCACAGT | 60   |
|    | AAAATGAAAA GATAAAGTGT GTTTTTACTT GAATTTTGAC TAAAATTACT CTATATTTAT                          | 120  |
|    | TAATTGAGCT ATGCTTATTA TTACAATTTG ATTACAAATT TTAAATTTGT TAATTGAATG                          | 180  |
| 15 | ATAATATTAA ATAAAGAAAC TTACACAAGC AAATATGAGT TGTAGCCCAA AATACTTGTT                          | 240  |
|    | AAATCAAAGT TGAAAGCTAC AAATAATGAA AATTATAAAC TTGAATCTGA AAGTAATTAC                          | 300  |
|    | TATAATTATG ACAATGTTAA CTTTTAAACG CACTTATTAA TTAAC <sub>t</sub> TACAT AATGTTAATA            | 360  |
| 20 | TCTAATTTAT TCAAGTACTT TCGCAAGATT TATTATCTAA ATAACGGGGG AAAGAATCAT                          | 420  |
|    | GAGT <sub>t</sub> CACAA AAAAgAAAAT TAGTCTTTTT GCGTCTTCTT TATTAACCGT AATAACGATT             | 480  |
| 25 | ACCTTGAAGA CGTATTTTTT TTATTATGTT GATTTTTCTT TAGGTGTTAA AGGTTTAGTA                          | 540  |
|    | CAAACTTAA TATTATTGAT GAATCCTTAT AGTTTAGTAG CACTGGTTTT AAGTGTGTTT                           | 600  |
|    | CTATTCTTTA AAGGCAAAAA AGCATT <sub>t</sub> TGG TTCATGTTCA TAGGCGGCTT CTTATTGACG             | 660  |
| 30 | TTCTATTAT ATGCCAATGT TGTGTACTTT AGATTCTTCT CTGATTTTTT AACGTTTAGT                           | 720  |
|    | ACTTTAAACC AAGTAGGTAA CGTAGAATCT ATGGGTGGTG CGGTTAGTGC ATCATTCAAA                          | 780  |
|    | TGGTATGACT TTGTTTATTT CATTGATACG TTAGTTTACT TATTCATTTT AATATTTAAA                          | 840  |
| 35 | ACAAAATGGT TAGACACAAA AGCATTTAGT AAGAAATTTG TTCCTGTCGT AATGGCGGCT                          | 900  |
|    | TCAGTAGCAT TATTCTTCTT AAAC <sub>t</sub> TAGCT TTTGCTGAAA CTGACAGACC AGAATTATTA             | 960  |
|    | ACACGTACAT TTGACCATAA ATATTTAGTG AAATATTTAG GACCTTATAA CTTTACAGTA                          | 1020 |
| 40 | TACGaTGGTG TTAA <sub>a</sub> ACTAT CGAAATAAT CAACAAAAg CGCTAgCATC TGAAGATGAC               | 1080 |
|    | TTAACaAAAAG TATTAAAtTA TACGAAAcAA CGTCaAACmG AGCCTAACCC rGawTATTAT                         | 1140 |
| 45 | GGGGTGGcAA rGAAGAAAAA TATTATTArG ATTCATTTAG AAAGTTTCCA AACCTTCTTA                          | 1200 |
|    | ATTAATAAAA AGGTTAATGG TAAAGAAgTA ACACCGTTTT TAAACAAATT ATCAAGTGGG                          | 1260 |
|    | AAAGAGCAAT TCACATACTT CCCTAACTTT TtCCATCAAA CAGGTCAAGG TAAAACATCT                          | 1320 |
| 50 | GACTCTGAAT TTACAATGGA TAACAGTTTA TACGGTTTAC CGCAAGgTTC TGCCTTTTCA                          | 1380 |
|    | Tt <sub>a</sub> aaaGGAG ATAATACGTA TCAGTCATTA CCAGCAATTT TAGATCAAAA GCAAGGCTAC             | 1440 |

## (2) INFORMATION FOR SEQ ID NO: 438:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1419 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 438:

|    |  |      |
|----|--|------|
|    | ACAAAATCAA TCAGCAAAAT GATTGGATTA AGACGCAAAT TGAGCGTTCA ATGGAAGGCG  | 60   |
| 5  | AAACAGTTGG CATTAATGAT CAAAATATAG AAATATATAG TGAACGtTgA GATTTATACC  | 120  |
|    | ATACACTCGT ACCTTTAAAT CAAGAATTGC ATAAGTTGCG ACTTAAAACT CAAAACCTAA  | 180  |
|    | CCAATGAAAA TTATAATATT AATGATGTGA AAGTTAAAAA GATTATTGAA GATGAACGTC  | 240  |
| 10 | AAAGACTAGC ACGAGAACTT CACGATTCTG TTAGTCAGCA ACTTTTTCG GCMAGTATGA   | 300  |
|    | TGCTATCTGC TATCAAAGAA ACGAAtTAGA ACCACCATTA GACCAACAAA TTCCTATTTT  | 360  |
|    | AGAGAAAATG GTTCAAGATT CGCAGTTAGA AATGCGTGCT TTGCTGTTAC ATTTAAGACC  | 420  |
| 15 | GCTTGGTTTA AAAGACAAAT CTTTAGGTGA GGGTATTAAA GATTTAGTTA TTGATTTACA  | 480  |
|    | AAAAAAAGTG CCAATGAAAG TTGTGCATGA AATACAAGAT TTAAAGTGC CTAAAGGTAT   | 540  |
|    | TGAAGATCAT TTGTTcAGAA TTACACAGGA AGCAATTTcG AATACATTGC GTCATTCAAA  | 600  |
| 20 | CGGTACAAAA GTGACAGTAG AATTGTTTAA TAAAGACGAT TATTTATTGT TGAGAATTCA  | 660  |
|    | AGATAATGGT AAAGGTTTTA ATGTTGATGA AAAATTAGAA CAAAGTTATG GACTTAAAAA  | 720  |
| 25 | TATGCGTGAA AGAGCTTTGG AAATTGGTGC AACGTTCCAT ATTGTATCAT TGCCAGATTC  | 780  |
|    | AGGTACACGT ATCGAGGTGA AAGCACCTTT AAATAAGGAG GATTCGTATG ACGATTAAAG  | 840  |
| 30 | TATTGTTTGT GGATGATCAT GAAATGGTAC GTATAGGAAT TTCAAGTTAT CTATCAACGC  | 900  |
|    | AAAGTGATAT TGAAGTAGTT GGTGAAGGCG CTTCTGGTAA AGAAGCAATT GCCAAAGCCC  | 960  |
| 35 | ATGAGTTGAA GCCAGATTTA ATTTTAAATGG ATTTACTTAT GGATGACATG GATGGTGTAG | 1020 |
|    | AAGCGACGAC TCAGATTAAA AAAGATTTAC CGCAAATTAA AGTATTAATG TTAAC TAGTT | 1080 |
| 40 | TTATPGAAGA TAAAGAGGTA TATCGTGCAT TAGATGCAGG TGTCGATAGT TACATTTTAA  | 1140 |
|    | AAACAACAAG TGCAAAAGAT ATCGCCGATG CAGTTCGTAA AacTTCTAGA GGAGAATCTG  | 1200 |
| 45 | TTTTTGAACC GGAAGTTTTA GTGAAAATGC GTAACCGTAT GAAAAAGCGC GCAGAGTTAT  | 1260 |
| 50 | ATGAAATGCT TACAGAACGA GAAATGGAAA TATTATTATT GATTGCGAAA GGT TACTCAA | 1320 |
|    | ATCAAGAAAT TGCTAGTGCA TCGCATATTA CTATTAAAAC GGTTAAGACA CATGTGAGTA  | 1380 |

## (2) INFORMATION FOR SEQ ID NO: 439:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 608 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 439:

ATGTnGGCGG ACGTAAAGGA CATGTTTATA CTGATGATCG AGCATTAGAT ATTGATATCG 60  
 TTCCGCCTGC TCAAGCAGAT GGTAAAGCTA CTAACCCCGA ACAATTATTT GCAGCAGGTT 120  
 ATGCATCTTG CTTCAACGGT GCTTTTCGACC TAATTTTAAA GCAAAACAAA GTGCGTGATG 180  
 CTCATCCAGA AGTAACACTA ACAGTGAGAC TAGAAGATGA TTCAGACTCA GAAAGTCCTA 240  
 AATTAAGTGT TTCAATTGAT GCGACAATTA AAAATGTTAT ATCTCAAGAA GAAGCTGAAA 300  
 AATATTTACA AATGGCTCAT GAATTTTGTC CATATTCAAA AGCGACTCAA GGAAATATTA 360  
 ATGTCGATTT AAATGTAAAT GTTGTAGATT AGCATTAAC TAAAGAGATT ATTCAACGTT 420  
 ATTAATAAAA TTCACATAAA ATTCAAATt stCrAcCAAA AATTTTGGT TGGyTATTTT 480  
 TTCTATTCGT GATTGAAATT TCTGGCAATA TTTAACTGAA AATGATTGTA CCTTAGTCAT 540  
 CATAAATGTG ACCGGTTCCA AACTGGCTT GACTTCTTCG CATACCGTCT ACAAATAAAA 600  
 GTCCAGTG 608

## (2) INFORMATION FOR SEQ ID NO: 440:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 682 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 440:

CCTTTCAAtT TCTCCCAAgA TTTACGCATG TCTGACCAAA TGTCAATACA ATACCTGAAT 60  
 AATGATTTCT GGAGTAATTG CGAAAAATAT TTAAAGTTG CTATAGATCA ATTTTCAAAT 120  
 TATAGTATCT CATCTCAAGT TTCTAACTAT CATTTACAG TATTACTTGG AGATCGCCAA 180  
 AAACCACTTA TGTATCTAAA TAAAATCGC GGTGGTGATG GTGGCATACC AGGTTATATT 240  
 ATGATTTATT TAGTGCCGAG TACAAGTACA ATTAATTCTA TGAAAAGCTT AATTGCACAT 300  
 CTATCAATAT ATTGATTGGG ATGGCGGAAG TTTGATTGAA 360

ATTGGACCGT GGGTAACAAA TACTAATTGA AGTCGTGATA ACGTAAAAAT TAAAAATACT 480  
 ATTTATAATC ATTTACATTT AAAGCATATA TTTGAATCGA tGCCTTATCT CTATGGTGAT 540  
 5 GATATTAATA AACTTCAAGG TAGGCCTATC GTTGGCTTAT CTCATGCTGC CGGGTATGCA 600  
 TGTGGCTATC ACTTGGTAAA ATACTTTTTTA CAAAAACAA ACATACCTAT TGAAGTTGCT 660  
 ACAACACTTC CAGCACAAAA AA 682

10 (2) INFORMATION FOR SEQ ID NO: 441:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2574 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 441:

ATCTTCTTTT AACATGACAA ATTGCAACAA AATATTAATG ACGCCAAAAG ACATTTTTTTC 60  
 ACGTTCAATT AATTCTTCAA CCATTGTCTT TTGCGATATA GTTGGTTCTG ATTCAGACCA 120  
 25 AGAAGCTAAC ATATCAATTG GACTCGTTTG TTCAAGTAAC TCAAACCATT CATCACTTTG 180  
 TGGCTTTGGA TTCACTTCTG AAGATTTGCC CGCCGAAGAT GATGTAGCAG GAGATTTCAC 240  
 CTGTAATTTA GGCATTTGAT TTTCGTGTTT CATTAAGTAA TACGAGCGTG CTTGTTTACG 300  
 30 CATTTCTTCA AAGGATAACT GTTGTCCACT TGTAATTGAA TTTAAAATAA CATGCTTCAT 360  
 GCCATCTGCT GTTAAACCAT ATAAAGTCGC GAGTTGTGTA ATTAAACGCT TTGCATCTTT 420  
 35 GGTAACAATG TCTTGACTAA TAAATGTTT ACCTAACATT TGTCTCAACA TTTCAAAGTC 480  
 AAAAGATTCA TTTGATAAAT CGATACCTTG GTACGGTTCA TTAATCGGaa TATCACTTGT 540  
 ATCGATATCT ATTTTTGTAG ACGGCACTTT AAAAACATCA GTAAATTGTC TTGTTACCTG 600  
 40 TTTAAATTCA CTCAAATCAA TTTGTTGATA CTCAAAGTAT TTCTTCAACT CATGAAATCG 660  
 ACGATGCTCG ACTTCACTAT ATAAAAAGAT TGACAACATT GGATCATTAA AAAATAAATG 720  
 TGCTGAAGGG GtTGaATTAA TTGGTAAACA AATTGTGTTT CTTGTTCATC ATGTTTGACA 780  
 45 AACGCCTTTA ACAATCCAAT CGCTTCAAGT AAGTCCATTT GTTGTCTAAA CTCTAGTAAA 840  
 TTAATTTTAA GTTCATTCAT AAAAATATAA TGAGAAAGAA TCAATGTTTC APTATGACTT 900  
 TCTTTAACGA ATTGAGTCAT AAAATGATAT AAACCCACTG CTTGCGTTCC AATTAGCGGT 960  
 50 GTATACAGTC GATTCAATAC CTCTAAATGA TTCGTATTTA AATCAAAGTG TTGCATAACT 1020  
 TTGAATTGAT CCTTTGGTCT TAAGCCGAAT TCGAAGGCTT GTCGTCCCaT TTAAGCnATC 1080

AAATTCCTTTA TAGACTGATG CAAATCTAAC ATATGAAACT TGATCAACAT GCATTAACAA 1200  
 GTTCATAACG TGTTACCTA TATCTCGTGA AGACACTTCC GTATGACCTT CATCTCGTAA 1260  
 5 TTGCCATTCA ACCTTGTTAG TTATGTCTTC AAGTTGTTGA TATCTAACTG GTCGTTTCTC 1320  
 ACAAGAACGC ACAAGTCCAT TAAGTATCTT TTCTCTTGAA AACTGCTCTC TTGTGCCATC 1380  
 TTTTTCACA ACTATAAGCT GACTAACTTC GATATGTTCA AATGTAGTGA AACGTGTTCC 1440  
 10 ACAATTTTCA CATTCTCTTC GTCTTCGAAT GGCATTTAAT TCATCGGCAT GCCTTGAATC 1500  
 TACAACCTTA GATTGTGTAG AATTACATTT CGGGCATTTC ATTACATCAC CCTCTTTATT 1560  
 TTGATTATGC CTAATTATAC TATAAATCTA GAGATGAAAA AAGAATCCCT CAATTTAATT 1620  
 15 CATTTAACCA AATAATGAAA CAATAAAAAA CATTATATCG TTAATTATTA AGTAATTTGC 1680  
 ATGACAATAT TATTGTATTA AAAATAAAAA ACCTAACTCC GAAGTCAGAG TTAGGCTATA 1740  
 AATTAATTGT ATTAACCTGC ACTTACAGTT TCTTTTGATG TCAAAAGTGC TCCAATTTGC 1800  
 20 TCAGCAACAT CTACAACCTT ATTTGAATAA CCCCATTTCAT TATCATACCA AGCAATAACT 1860  
 TTTACTTTAT TCCCTGACAT GACCATTGTT GATTTTGCAT CAATAATAGC TGAATTTGGA 1920  
 TTAGTATTAA AATCAACAGA CACTAGTGGT TGATGTTTGA CTTCTATGAT ACCTTCTAAA 1980  
 25 CCTGCATTTT CAAAAGCTTG GTTTACTTCT TCTGCAGTTA CTTCTTTTTT TAAATCAACA 2040  
 ACTAAATCAA CGAGCGATAC ATTCTTTGTT GGTACACGTA ATGCCATGCC GTGTAATTTA 2100  
 30 CCTTCTAATT CTGGTAATAC TTCTTTTAAA GCTTTGCGCG CACCAGTAGA AGTAGGAATA 2160  
 ATGCTTTCAT TACATGAACG TGCACGTCTT AAATCTTTAT GTGGATTATC AATATTTTTT 2220  
 TGGTCATTTG TAATAGCGTG AACAGTAGTC ATTAAACCAT TAACTATTCC AAACGTGATTA 2280  
 35 TTTAAAACCT TTGCAACTGG ACCAATGCAA TTAGTAGTAC ATGAAGCATT ACTAAAAATG 2340  
 TCAAATGCTT CTATATCTAA TTGGTTATCA TTTACGCCTT TAACTACCAT TTGAACATGT 2400  
 CCACCTTTTG nAGGACCAGT TAACAAAAsT TTTtTGGCAC CTGCTTTAAT ATGTGCGATG 2460  
 40 GCTTTATCAC CATGATTAAA TTTACCAGTT GCATCTATAG CAATATCGAT ATCTAATTCT 2520  
 TTCCATGGCA AGTTTTTCAGG ATTGCGATCA GCAACCAATT TAATTTTATG ATCT 2574

(2) INFORMATION FOR SEQ ID NO: 442:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 3326 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

|    |            |             |             |            |            |            |      |
|----|------------|-------------|-------------|------------|------------|------------|------|
|    | CAAGGTACCG | GTTTAGGTTT  | G TTCATTGT  | AAAATGATTA | TCGAAGAGCA | TGGTGGTTCC | 60   |
|    | ATAGATGTTA | AAAGCGAATT  | AGGGAAAGGC  | ACAACATTTA | TTATTAAACT | ACCAAAACCA | 120  |
| 5  | GAATAAAATT | GAATATAGTT  | ATTTCAGAAC  | GCATGTTATT | GATTAGAGAC | TCTAATTTAT | 180  |
|    | AGCATGCGTT | TTTTGATTGA  | TGTGGGGAAT  | TTTGTATGTG | GATTAGAACT | TAGGGTTTTT | 240  |
|    | GCGAATATCA | ACTATTAAAT  | ATATTACTAA  | TTTATACAAA | AATATAAAGT | TTGATAAAGT | 300  |
| 10 | TATTTATTTG | ATTATAAAAA  | TAGGGTAAAA  | TATAGATATA | TTGTATTAAT | TAAATTATTC | 360  |
|    | GAGGTGTCAT | ATGAAAAAAT  | TCATTGGATC  | AGTTTTAGCT | ACGACATTAA | TTTTAGGGGG | 420  |
| 15 | ATGTTCCACG | ATGGAAAAATG | AATCAAAAAA  | AGACACAAAA | ACAGAAACAA | AATCTGTACC | 480  |
|    | AGAAGAAATG | GAAGCTTCAA  | AATATGTAGG  | CCAAGGCTTC | CAACCGCCTG | CAGAAAAAAA | 540  |
|    | TGCGATTGAA | TTTGCGAAGA  | AGCATCGTAA  | AGAATTTGAA | AAAGTAGGTG | AACAATTCTT | 600  |
| 20 | TAAAGATAAC | TTTGACTAA   | AAGTTAAAGC  | TACAAATGTT | GTAGGTAAAG | ATGATGGTGT | 660  |
|    | AGAAGTTTAT | GTGCATTGTG  | AAGATCATGG  | CATTGTATTT | AATGCAAGTC | TACCTTTGTA | 720  |
|    | CAAAGATGCC | ATCCATCAAA  | AAGGATCAAT  | GCGCAGTAAT | GACAATGGTg | ATGATATGAG | 780  |
| 25 | TATGATGGTG | GGTACAGTGC  | TGAGTGGCTT  | TGAATATCGA | GCGCAAAAAG | AAAAGTATGA | 840  |
|    | TAACTTATAT | AAATTCTTCA  | AAGAAAATGA  | AAAGAAATAT | CAATATACAG | GCTTTACAAA | 900  |
| 30 | AGAGGCAATT | AACAAGACAC  | AAAATGTCGG  | ATATAAAAAT | GAATATTTTT | ATATTACATA | 960  |
|    | CTCTTCTAGA | AGTTTAAAAG  | AATATCGAAA  | GTATTATGAA | CCACTGATTC | GAAAAAATGA | 1020 |
|    | TAAAGAATTT | AAAGAAGGAA  | TGGAACGAGC  | AAGAAAAGAA | GTGAATTACG | CTGCAAATAC | 1080 |
| 35 | AGATGCTGTT | GCTACACTTT  | TTTCTACTAA  | GAAAAAATTT | ACTAAAGACA | ATACAGTAGA | 1140 |
|    | TGATGTAATC | GAAC TAAGTG | ATAAATTATA  | TAATTTAAAA | AATAAACCAG | ATAAATCTAC | 1200 |
|    | AATCACAATA | CAAATAGGGA  | AACCCACTAT  | TAATACTAAG | AAAGCCTTTT | ATGATGATAA | 1260 |
| 40 | TCGTCCAATA | GAATATGGGG  | TGCACAGTAA  | AGATGAATAA | AATTAATGAT | AGGGATTTAA | 1320 |
|    | CAGAATTAAG | TAGTTACTGG  | GTTTATCAAA  | ATATTGATAT | AAAAAAAGAA | TTTAAAGTTA | 1380 |
| 45 | ATGGAAAAAG | GTTTAAACAA  | G TAGACAGTT | ATAATGATGA | TAAGAATAGT | AATTTGAATG | 1440 |
|    | GTGCTGCTGA | TATTAAAATA  | TATGAGTTAT  | TAGATGATAA | AAGTAAACCA | ACTGGTCAAC | 1500 |
|    | AGACAATAAT | TTATCAAGGA  | ACATCTAATG  | AGGCAATTAA | TCCAAATAAT | CCATTAAAAT | 1560 |
| 50 | CATCGGGGTT | TGGAGATGAT  | TGGCTCCAAA  | ATGCTAAATT | AATGAATAAT | GATAATGAAA | 1620 |
|    | GCACAGATTA | TTTAAAGCAA  | ACAGATCAAT  | TATCAAATCA | ATATAAAATA | AAGTTAGAAG | 1680 |
| 55 | ATGCAGATAG | ATTATCAAAT  | AGTGATTTTT  | TAAAAAATA  | TAGAATGGAA | TCAAGTAACT | 1740 |

|    |   |      |
|----|---|------|
|    | ATCAAGGAGC GAAACATCCG AATGAAAAAG TTGTTGCTAC TGA | 1860 |
|    | CTCAGCA ATGATTCCTT                              |      |
|    | ATGCTGCTTG GCAGAAATTT GCTAGACCAC GCTTTGATaTAA   | 1920 |
|    | TATGATTAGT TTTAATAGTA                           |      |
| 5  | CCAACGATTT ATTAACATGG TTACAAGATC CATTCaTCAA     | 1980 |
|    | AGATATGCCA GGAAAACGCG                           |      |
|    | TTAACATTAA TGATGGTGTG CCCAGGTTAG ATACTTTAAT     | 2040 |
|    | AGACAGCCAT GTAGGTTATA                           |      |
|    | AAAGGAAGTT AAATAGAAAA GATAACACAT ACGATACTGT     | 2100 |
|    | ACCACTAATC AAAATAAAGT                           |      |
| 10 | CGGTAAAAGA TACAGAAATT AAAAATGGAA AAAAAGTAAA     | 2160 |
|    | AAAGACTATT AACATAACAT                           |      |
|    | TAGATATGGA TGGGCGAATT CCAATAAATG TTTGGACAGG     | 2220 |
|    | AGATTGCGATT GCACGTTCTG                          |      |
|    | GAAGAGGAAC TTTAATTAAA CTTAATTTAG AAAATCTTGA     | 2280 |
|    | TGCGTTGAGT AAAGTATTAA                           |      |
| 15 | CTGGTGAAAC AAGTGGTATG TTAGCAGAAT GCGTAATCTT     | 2340 |
|    | TTTAAATGAA AGTTTAAACA                           |      |
|    | TCTCAGAAAA TGAAAATAAA AATTTTGCAG ATAGAAAGAA     | 2400 |
|    | ACAATTATCA GAAGGATTTA                           |      |
|    | AGGATAAGAT TAACTTATTT CAGTTAGAAG AAATGGAAAG     | 2460 |
| 20 | AACTTTAATT AGTAAAATAA                           |      |
|    | ACTCACTTGA AGAAGTTGCA GATGAAACAA TAGAAAGTAT     | 2520 |
|    | TAGTGCTGTT AAACACTTAT                           |      |
|    | TACCTGATTT TGCATTGGAT GCATTAAAAG AAAGAATTAA     | 2580 |
|    | TGAGTTGTTT AAAGGTATAA                           |      |
| 25 | AATCTTTTAT AGAAAAAGTG TATGATAGTA TAGATAATGA     | 2640 |
|    | AATTTTAGAA ATTTTCAAAA                           |      |
|    | ATATAGATCA CGACTTCAGA GATGGAGTAT CTGAAGAAAT     | 2700 |
|    | GATGAAACAT TTGAAAGTAG                           |      |
|    | TGAAACAGAA TATAGACCAA ATAAAAAATC AAAATGATAT     | 2760 |
| 30 | TTATGGTAGG CAAATTGCAG                           |      |
|    | ATATTAGAAG TATTATGAAA CAACAAGATG CAACAATTTT     | 2820 |
|    | AGATGGAAAT TTTCAAATTA                           |      |
|    | ATTGTAGCGG CGAAAATATG GTACAGGGTC TAGTTATACC     | 2880 |
|    | TTCTAATTAT TTAGGAAGAA                           |      |
|    | AAATGAAAAT ATTAAAAGAC CATATCGATG ATGGTATTAA     | 2940 |
| 35 | AAAAATAGCA GACTATGTTC                           |      |
|    | AAGGTATATA TGATGAATAT GCATCGAAAA TTGTCGATGT     | 3000 |
|    | AATAAAATAT TTGATTAATA                           |      |
|    | CAATTCCCAA AATACGTAAG AATTTAAGAC ATGCAATTGA     | 3060 |
|    | AATGTAAAT GTAAAAAAGA                            |      |
| 40 | AAGAATTTTT GTCCCTGATT CCTAATGTAA CTTGTAATTA     | 3120 |
|    | TATTAAAAC AAATTAGAAG                            |      |
|    | AATTAGATAA TACTTTAGGC AAATGGGAGC CTTTTCTTAA     | 3180 |
|    | TGATTTAAAA GCAGTGTAC                            |      |
|    | CAATTTTAGA TAACCATTTA GATGATATTG TTAAGAACAT     | 3240 |
|    | GAAGCCTTTG ATTGTACAAA                           |      |
| 45 | TGATATwTGA ACCATCACAT TATGACGATA TGTTTAATTC     | 3300 |
|    | aAGAAAAGCT TTAACGcCAG                           |      |
|    | TGTTCTCAAG CGTTTTATAA AGGTTG                    | 3326 |

(2) INFORMATION FOR SEQ ID NO: 443:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 5301 base pairs

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 443:

|    |  |      |
|----|--|------|
| 5  | ACCTATAGCT GGCCCGTCAA GTCCTGAATC ATATGTCGCT ATAAACCCAG TTGCATGCCC  | 60   |
|    | AGCAATCTCG GTTCAATTT CAAAATCATG CTCTTTCAAA CGATCTATTA AAGTTCGAGA   | 120  |
|    | CGCAAATATT TCTTCATTAC CAAGTTCAGG ACGTTCATGA ATTCTATGAC TGATTTTCGAT | 180  |
| 10 | ATAACTATAT TTATTTGTTT CTATATAATC GAGAATTTGT TGTTTTTTCAC TCATTTTTTA | 240  |
|    | CTATCTCCCT TTACCCTAC ACTCATTTTA ATCATCCACA ATATTTTGTT CTTTCAAAAT   | 300  |
|    | GAATTATTAC TTATTCTATC GGTTTTATCT CATGATGTCA TCTAGTTTTT CTTTATTTAC  | 360  |
| 15 | AAAATTTTCT AATAACTAAA aGCCTTTCAT AAATTTATAA AACAGTTTCA AATTGTAAAA  | 420  |
|    | CATAAGCCCT ATTGTTACAA TTAAAGTATT GTTAGAAACA CAACTTACAA CAACTTAAG   | 480  |
| 20 | TTTTATAATG CAACAAATCA TAAGCGTTTT ATAGTTTGA GTAGTTAATA GGAGGAAATT   | 540  |
|    | CAAAATGACA AAAATGAATG TTGAAAGTTT cAATTTAGAT CaTAcTAAGG TG GTTGCCCC | 600  |
|    | ATTTATTAGA TTAGCGGGAA CGATGGAAGG ATTAAACGGA GATGTCATTC ACAAATACGA  | 660  |
| 25 | CATTGCTTTC AAACAACCAA ACAAAGAACA TATGGATATG cCCGGACTAC ATTCATTAGA  | 720  |
|    | ACATTTAATG GCTGAAAATA TTAGAAATCA TAGTGACAAA GTTGTTGATT TAAGTCCTAT  | 780  |
|    | GGGTTGCCAA ACTGGTTTCT ATGTATCATT TATTAATCAT GATAATTATG ATGATGTATT  | 840  |
| 30 | AAATATTGTT GAAGCAACTT TAAATGATGT GCTAAATGCT ACTGAAGTGC CTGCTTGTA   | 900  |
|    | TGAAGTACAA TGTGGCTGGG CAGCAAGTCA TTCATTAGAA GGTGCTAAAA CTATCGCTCA  | 960  |
| 35 | AGCATTTCTA GACAAACGAA ACGAATGGCA TGATGTTTTT GGTACAGGAA AATAAATCTT  | 1020 |
|    | AGTCAATCAA GTTAATCAGA AAaGCAGTCG AACAATGATT TTACAATCGC CATTGTCCAA  | 1080 |
|    | CTGCTTTTTA TTATGCTTCA AAGTCAAAAA ATCGAACAAA TGAAAAAGTA AAATCTTTAA  | 1140 |
| 40 | CATTGTGTCG ATTTATTTGA GAACCACTAT AATTTCTTAA TTAGTCCCAT TAACACGAAC  | 1200 |
|    | TGCATAGGTA ACCTTAAATA TAGTTGCCAT GTTGGAATT GTTTATCTCC TAAAGGTAAC   | 1260 |
|    | TTTTTAACTG CCATATAGAT ATTAGCTGGG AATACAGCTA GCAAGAATAG ATTGATTGTA  | 1320 |
| 45 | TTTTTCAAGC ATTGAGATGG TCTTTTAATT AAAAGTGCAA GTCCAAATAA TATCTCAAAG  | 1380 |
|    | ATTCCTGTAA CAAGAACCGC TGTTTTTCGA AGTGGCAAAC ATTTCCGTAT GATATTTCTA  | 1440 |
|    | AATTGTCGTT CTCGTGTAAA ATGCAATACA CCTATTACAC TAAAACCTAT TCCTAATAAA  | 1500 |
| 50 | TATCTTAGTA TGTTCATCA GCTTCAACTC CTATTCTGTA ATGATTTTAT GAATTAATGT   | 1560 |
|    | AGGCGATACA ACATGaTCAG CAATTGTTAT GCTTGAATCT AATTTTTTAA CAACATCGTC  | 1620 |

|    |  |      |
|----|--|------|
|    | AATTTTTTTA TTTAAAACAA TACCAACCGC TAAATCAATA TCATCCTCTT TTGTTAAACG  | 1740 |
|    | TCCCGCTCCT AACATCATCG AAGCGACACC TATATCGTTA GAGACTAATT CAGTCACATA  | 1800 |
| 5  | ACCTGATTTT TTAGCTTTAT ATTCAATTTG ATATTGAGCT TGTGGCAAAC GCTCTGGATG  | 1860 |
|    | GTCAATAACA GTTTCGTCGC CACCTTGGTT TTTAATAAAT GTTTTGAATT TTTCTAATGC  | 1920 |
|    | TGCACCTGAA TTAATTGCCT CAATTAGCAA CGCTCTCGCT TCTTCAAGCG TTTCAGCTTT  | 1980 |
| 10 | GTTTGCAAGT ACAACCATTT GAGAACCCTAA TGTTAATACA AGTTCTGTTA AATCTTTCGG | 2040 |
|    | ACCTTGTCCT TTCAACGTAT CAATTGCTTC TTGTAECTCA AGCGCATTGC CAATCGCACG  | 2100 |
|    | TCCAAGTGGC TGATTCATAT CAGAAATAAT CGCCATCGTA TTACGTCCCA CATTATTACC  | 2160 |
| 15 | AATACGTACC ATTGCGTGCG CTAATGCTTC AGCATCTTCT AATGTTTTCA TAAATGCACC  | 2220 |
|    | GCTACCAGTT TTTACATCTA ATACAATTGC ATCTGCACCA GCAGCAATCT TTTTACTCAT  | 2280 |
| 20 | AATTGAAGAG GCAATTAATG GTATTGAATT GACAGTACCA GTAACATCCC TTAAGGCATA  | 2340 |
|    | TAATTTTTTG TCTGCAGGAG TTAAATTTCC TGATTGTCCT ACAACTGCCA CTTTATTTTC  | 2400 |
|    | ATTAACCAAT TTCACAAATG TTGCTTCATC TATTTCAACA TGAAAACCAT CAATTGCTTC  | 2460 |
| 25 | TAATTTATCA ATCGTACCAC CTGTATGACC TAATCCACGC CCACTCATTT TTGCAACAGG  | 2520 |
|    | AACATCTACA GCTGCTACTA ATGGTGCTAA AACCAATGTA GTTGTATCTC CTACACCACC  | 2580 |
|    | TGTTGAGTGC TTATCTACTT TGACACCTTT AATATCACTC AAATCTATCA TATCACCAGA  | 2640 |
| 30 | ATTAACCATA GCCATCGTTA ATGCTGCACG CTCATCATCA TTCATATCTT GGAAATAAAT  | 2700 |
|    | CGCCATTGCT AAACCTTGATG CTTGGTAATC AGGAATATCC CCTTTAACAT AGCCGCCAAT | 2760 |
|    | AAAGAAATTA ATTTCTTCCG TTGTTAGTGT ATGACCGTCA CGCTTTTTCT CAATAATGTC  | 2820 |
| 35 | TATCATTCTC ATTTTTATCA TCCTTTTCTT AAAAAGCTTA GGACAAAGCA TCTGCGCTTT  | 2880 |
|    | CTCTAGTCCA TTTTAAAAAG CACAAGCGAA AATTATTATA GCAAGCTATC GATTTCATTT  | 2940 |
| 40 | TTAATATCAC AATTTCATG CGATGTTATT ATTCTTAAAT AGATTGGTTA TAACGTAAAA   | 3000 |
|    | GTCCCTATTA AATTATCTTA GAATCATCAT GGCATTTATG ATGTCTTAAA GCTGATATCG  | 3060 |
|    | ACATACTTAT ATATGGTTAC GATGTCCCAT GCTTACATAT TTTTATAAAA TTAGTAATCT  | 3120 |
| 45 | GAATCTGCTT CTAAACCTTG CATAATTTGa ACGCCTGCGC TCGCACCAAT ACGTGTGCGA  | 3180 |
|    | CCTGCTTCAA CCATTTTATT GAAATCTTCT AAATTACGTA CGCCACCTGA TGCTTTTACT  | 3240 |
|    | TCTATATCAG CACCTACTGT ATCTTTCATT AATTTAACGT CTTCTGCACT CGCACCGCCA  | 3300 |
| 50 | CCTGCAAAAC CTGTTGAAGT TTTAACGAAG TCCGCACCAG CCGCTTTTGT TAATTCACCTC | 3360 |
|    | TAATTCACCTC TACTGTGTGA   | 3420 |

|    |             |             |            |             |             |             |      |
|----|-------------|-------------|------------|-------------|-------------|-------------|------|
|    | TTTAATGCGC  | CGATGTTGAT  | GACCATGTCA | ATTTTCATCTG | CACCATTTTG  | AATCGCATCT  | 3540 |
|    | TCTGTTTCAA  | ATGCTTTCGT  | CGCAGTTGTC | GATGCACCTA  | ATGGGAATCC  | TATTACCGTA  | 3600 |
| 5  | CAAACATAACA | CCTCTGAATC  | AGCTAGTCGC | TCTGCTGCAT  | ATTTAACATG  | CGTTGGATTG  | 3660 |
|    | ACACATACAG  | ATTTAAAAATG | GTATGCTTTC | GCTTCATCGA  | TGATTTGATC  | GATTTGCGTA  | 3720 |
|    | CGTGTTGACT  | CAGGCTTCAA  | TAAAGTGTGA | TCAATCAATT  | TTGCACTATT  | CATTTTCTAT  | 3780 |
| 10 | CTCCTCCTTT  | ATGGTTGATT  | ATAAAAATAC | GGTTGTAAAT  | TAGTTGATTG  | AGCGTCAGGT  | 3840 |
|    | TCATTTAAAT  | ATCAGGTTAG  | ATGTTGCTT  | TTTATGTAAC  | CGCATACATA  | TACTATTACA  | 3900 |
|    | TTAATTCATT  | TCCCATAAAC  | AAACAATACA | ATTGAACGTG  | ATATCTTCAT  | TATGAACGAT  | 3960 |
| 15 | GACTTGACAA  | CAAGCTAATC  | AGGATTATAT | TTTTATAATT  | CTTTAATTCT  | ATAGTACAAA  | 4020 |
|    | AATTCGCAAA  | AAAGGGAAAC  | AAATGTTATC | TTAAAATTAT  | TAATGAATAT  | TAAGGAGAAG  | 4080 |
| 20 | ATAACAAATG  | ACAAAAGGTA  | CACCACATAT | TCAACCAAAT  | GGAGTAAAAA  | TTGCTAAAAAC | 4140 |
|    | AGTATTAATG  | CCTGGCGATC  | CGCTACGTGC | AAAATATATT  | GCTGATAATT  | TTTLAGAAAA  | 4200 |
|    | TGTTGAACAA  | TTTAACGATG  | TACGTAACAT | GTTTGGTTAC  | ACTGGTACAT  | ATAAAGGTAA  | 4260 |
| 25 | AGAAGTTTCT  | GTAATGGGTT  | CTGGTATGGG | TATTCCAAGT  | ATTGGTATTT  | ACTCATATGA  | 4320 |
|    | GTTATACAAC  | TTCTTTGATG  | TAGATACAAT | CATTCGTATC  | GGTTCTTGTTG | GCGCATTACA  | 4380 |
|    | AGAAAATGTT  | AACTTATACG  | ATGTTATTAT | TGCACAAGCT  | GCATCAACTA  | ATTCAAATTA  | 4440 |
| 30 | TGTAGATCAA  | TACAATATTC  | CAGGTCATTT | CGCGCCTATC  | GCTGACTTCG  | AGTTAGTAAC  | 4500 |
|    | TAAAGCTAAA  | AATGTCGCTG  | ACCAAATCGG | TGCTACTACA  | CACGTAGGTA  | ACGTATTATC  | 4560 |
| 35 | TTCTGATACA  | TTTTACAATG  | CCGATCCAAC | ATTCAATGAT  | GCTTGGAAAA  | AAATGGGTAT  | 4620 |
|    | TTTAGGTATC  | GAAATGGAAT  | CAGCTGGTTT | ATATTTAAAT  | GCGATTGATG  | CTGGTAAAAA  | 4680 |
|    | AGCACTTGGT  | ATTTTCACAG  | TAAGTGATCA | TATTTTACGT  | GACGAAGCTA  | CTACACCTGA  | 4740 |
| 40 | AGAACGTCAA  | AATTCATTTA  | CACAAATGAT | GGAAATCGCT  | TTAGAAATCG  | CAGAGTAACT  | 4800 |
|    | TATTTAAATT  | GACTTTAATT  | GCTCTTTAAC | AATGCGATTA  | AACTCAAAAA  | GCCAACACAT  | 4860 |
|    | TCTGGGCGTA  | TCCCCATTTA  | TGTGTTGGCT | TTATTTTATA  | TTATTACTTA  | TCTGTAGATT  | 4920 |
| 45 | AGCTTAAGTA  | AGATTTAAAC  | ATCCAATTAT | GTTTATCTAC  | TGATGTTTGC  | ATACCTATAA  | 4980 |
|    | ACATATCTTC  | TGATACATCA  | TCGCCAGCAT | TACCAGCAAT  | TTGATTGCG   | TTTTCTAATT  | 5040 |
|    | GTTTTGAGAT  | ATTTGTGAAG  | TCTTGTGATA | ATTCTTCAAC  | CATTTGTTCT  | GCAGAGTAAC  | 5100 |
| 50 | CTTTCGCAGC  | TTCTTTAACA  | ATTGATTGCT | CTAAGCATTG  | AGTTAATGTA  | CCTACAGGGT  | 5160 |
|    | TTCTCTCTAC  | CGCTAAAATT  | CTTTCAGCTA | ATTCGTCTAC  | ATATTGGCTT  | GCTTCATTAT  | 5220 |

AATTGTGTAG CTTTGTGTAA G

(2) INFORMATION FOR SEQ ID NO: 444:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11466 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 444:

|   |      |
|---|------|
| GAAGATGAAA GCTATATTGA AGATGATGTT ACTAAAAAGG AAGCTATTTT AAGTATGCAA | 60   |
| ATTCCTAAAG GTTCTCTCA AAAATTAAAA GAGAACCGTT TAAAGAAAC GATACAGTTA   | 120  |
| TATGGTAGAG ATGACTTTAT AGGTGGTATT GCTGTAGAAA TTGTTAGTAG TTCATTATAT | 180  |
| GAGCAGCAAA TTCCTAACAT TATTTATGAA CACCTTGAGG ATATGAAACA GCATCAATCC | 240  |
| ATCGATGCTA TCAACAAGTC CTATCATAAA CATAACCTG AATCTAAAAT CAAATTTGTG  | 300  |
| TCGCTTACTA AACAGCACA AACTCTATT TCAATTAGCT TAATCTTTC GGTGATTTTA    | 360  |
| TTTGTTAGCG CTGTTCAAGT AGTACTTCAT TATCGTTTAA ACCAACAAGC AGCATTGCAA | 420  |
| CGATTATCAC AATATCATTT AAGCCGTTT AACTATATA GTACTTATGT AATGACACAT   | 480  |
| ACGATTTTGT TATTGTTGGT ACTATTGGCA GTTAGTCTAT ATTTGTCTCA ACCACTCAGC | 540  |
| TTAATATTTT ACTTAAAATC ACTGTTACTT ATATTGATTT ATGAGATAGG TATCGTCTTT | 600  |
| ATCTTATTCC ATATTCAAAC AATAAGTCAT CGATTATTCA TGACATTTAT ATATGCACTT | 660  |
| GCTATGGGTA TCGTATACTT GATTATTTTC ATGTAAAGGA GCGTAACTGA TGATAGAAAT | 720  |
| TAATAACCTT TCAAAGCGTT ACCGTAACAA ACAGATTTTC AATCATTTAA CTATGTCCTT | 780  |
| TGATAGTAAT CGTTTAACCG TATTACTTGG TGATAATGGT GCTGGAAAAT CAACATTACT | 840  |
| TCGTATGATT GCTGGTATTG AAAAGCTAA TGATGGAAT ATCAACTATT TCGGCGAAAA   | 900  |
| ATGGAATCAA AGACAATAC aAAATCACAT CGGTTATGTG CCACAAGACA TTGCGTTATT  | 960  |
| TGAACACATG ACAGTGGCTG AAAACATTAA ATTTTTTAAA TCACTTTGTA AAAATCCAAT | 1020 |
| TAACGATACA ACTATCAACG AATATTTACA GCAATTAAAC TTTGATGATA CGTCTGCCAA | 1080 |
| AGTATCTACA TTGTCCGGTG GGAATAAAG TAAAATTAAT ATATTAGTAG GTTACTAGG   | 1140 |
| TCAACCTCGA ATTCTCATTT TAGATGAACC GACAGTTGGT ATTGATTTAA AATCTAGACA | 1200 |
| TGACATCCAC CAACTACTTA ACATCATGAA ATCTAAATGT TTAATTATAT TAACTACCCA | 1260 |
| TTAATTATAT TAACTACCCA TAACTACCCA TAACTACCCA TAACTACCCA            | 1320 |

|    |             |             |            |             |             |             |      |
|----|-------------|-------------|------------|-------------|-------------|-------------|------|
|    | CCCAAGCTGC  | GTATGATATC  | GCAACTTGGG | ATTTTCTGTA  | TTATCTACTT  | TGCAAGTATG  | 1440 |
|    | ACGTTGGGTC  | TACTGCATAT  | TGATTACCGA | TGCCACCAGA  | CATACGTTGG  | AAGTGTACGT  | 1500 |
| 5  | GAGGCGCTGT  | TGAATTACCC  | GTAACCTG   | AATATGCAAT  | TTGGTCACCA  | GCTTTGACTT  | 1560 |
|    | TATCACCAGC  | TGAAACAGTT  | AAACGATTAT | TATGCATATA  | CCATTGGTAG  | TTATTACTGT  | 1620 |
|    | TCGCTTCTTT  | AATCGTTACT  | TGATTGCCGC | CACCATAGTT  | ACTCCAACCT  | GCTTGTACTA  | 1680 |
| 10 | CTGTACCATC  | AGTTAATGAG  | TAACTGGTG  | AATTTTCAGG  | CATTGCATAG  | TCGACACCGT  | 1740 |
|    | AATGCGCACC  | ACCACCGTGA  | TATTGTCCAT | ATGGTTGTAG  | TTGTTTACGA  | CTTGTTAACC  | 1800 |
| 15 | AGCTTGCGTC  | TTTCGCATGA  | CCACTAGCTG | TCGCTTTACT  | TGCTGATCCA  | CCATTTTGAT  | 1860 |
|    | TAGATGTGCC  | ATTAGGATAA  | TTGACCTTTC | CATTACCATC  | ATGGCTGTTA  | TACGCTTGGT  | 1920 |
|    | TGTTGTTACT  | ATGTGAATAA  | TAGCTCGCGT | CTGGACCTAC  | ATTTGATTGA  | TAACCATATT  | 1980 |
| 20 | GATTAATATG  | CTGTTGGCTT  | TGACTCGCTG | TGTAGTCATT  | GTTATCTCCT  | GCTGTTGCTG  | 2040 |
|    | GATTCACATA  | TGTTTGGCCG  | CTTCCATTGG | CATTTGCATT  | TTTTGGATAA  | CAGTTATAAA  | 2100 |
|    | AATAATGCGT  | ATGTCCTTGA  | GCATCTACGA | ATGTATAGCT  | ATATTCTTTA  | TTATCAAACA  | 2160 |
| 25 | TTGCTTGATT  | CCAGTTACCA  | TCAGGTGTGT | GATGATAATC  | CCCATTAGAA  | TCAATTGTAT  | 2220 |
|    | AATAAGTACC  | ATAAGATACG  | TCTTGTGATT | GTGTTGACAT  | TTGTGTATGT  | GCTTGTTGGG  | 2280 |
|    | TGTTTGTCTG  | TTCTGCTGCA  | TCTGCTTGAT | GCGCCATTGT  | AAATGTAGCG  | AAATCCATCGT | 2340 |
| 30 | TGCAATCGCT  | GCTGCTGTTA  | ATTTTTTCAT | GTATAAAACA  | TCCTCCATTA  | AAGTTAAAGT  | 2400 |
|    | TAGTTTTCAA  | TTAAACTGTA  | CTGCACATAC | TAAAAGAATT  | AGACAACTGA  | GTAAAGGATT  | 2460 |
| 35 | TAATTCTCAT  | TTTCCAACCTA | TTTAATATTC | CCGAAATGTT  | TTACTAAACT  | CATTACATTG  | 2520 |
|    | TCATTACAAA  | ATAGCCATAC  | ATTGATATTA | AAATGACATC  | TCTCACTGCA  | TTCGTTTAAAC | 2580 |
|    | CTTTTATAAA  | TTTTCAAAAT  | TAACAACTAA | TCGTTTCGTCC | ATGTTTCGCGA | TTCAACGCTA  | 2640 |
| 40 | ATGCATGATA  | GTAATCATCC  | ATCAAATCAT | ATCAACCAAA  | TTCCATTATC  | AATCGCTATT  | 2700 |
|    | GATTGTCTATT | CAACTTTCTA  | ATAGTGATAT | GCTTCTCAGG  | CTTAAAAATC  | GTCATATCTT  | 2760 |
|    | TTCTATTAAT  | TAAATCATCT  | GTGAGCTTTA | ATGCTACTAA  | TTCAATTGCTG | CCATAATACT  | 2820 |
| 45 | TAATATATAA  | CGTTCTTGTA  | GTAAATTTA  | TTACGGTCTG  | ATACATCGTA  | TAGTGATTGT  | 2880 |
|    | CAGCATCATG  | CGGACGTACA  | ATTCCAATCG | GTATATTTAC  | CGCATCTAAT  | AAATAAAATG  | 2940 |
|    | CATTCAATTA  | ATCCATTTCT  | TTATCATTGT | TTTGAGCAAT  | GTTTGCTTTC  | ATAAATGCCA  | 3000 |
| 50 | TTCTCACAAA  | GCGCTCAGTT  | GAAGTAAATC | CACCTGGCAA  | TCCAAATGTA  | CCTGCTTCAT  | 3060 |
|    | TGCCTAAAGG  | TTCAATCGTT  | ACACCTTCCA | ATAAATTTGC  | TGTTGCTGGA  | TAAGGAGAAA  | 3120 |

|    |             |            |            |            |             |            |      |
|----|-------------|------------|------------|------------|-------------|------------|------|
|    | CACCAATAGG  | ATTATCTTTT | ATAACCACTT | CACCCCTCTT | AAATGAAACT  | TCGACTGTAT | 3240 |
|    | GTCCAGTTGC  | ATCGGAAACA | TGATAATGCA | ATGGCGGAAC | TTCACCGATG  | TCATTTAAAT | 3300 |
| 5  | ATACAGCTAC  | AACATGTATT | TGGGATGCTT | GTTGTTTCAT | ATCTTCAATG  | CTTGTTGTAT | 3360 |
|    | ATCCCAAAT   | CCATGTCACA | ATTTCATTTT | GCGTAATATT | CATCGCGTCC  | GCTTTGTGTG | 3420 |
|    | TTGATCCATA  | TGAACTATAA | CCTCGGAAAT | ATTGTGTTGA | AATGGCAAAG  | CCATGTCAT  | 3480 |
| 10 | TAACACCATC  | ACCATAAATA | AAACCTTCCA | TATCTGTTCC | TGTGCCAATA  | AAGCCATATT | 3540 |
|    | GCGTTTGGCC  | TGTCGTGCCA | GTGCAAGATT | TCCAACGATA | ATTTCTAGGC  | GTCACTGCTG | 3600 |
|    | GCGAACCATC  | TAATGGATAA | TCATAATCCA | TCGTGCGTCC | AAGAAGTACT  | TGATTATTTA | 3660 |
| 15 | AAGTTTGTAT  | TGTGAATCCT | GTGCACATTG | TTCTCACTCC | TCTGTACCTT  | CATTTACTTT | 3720 |
|    | AATCACTTTC  | AAATAAAGCT | GTTTCACTTA | AACATACTAT | AAAAAATCAA  | TTATACAAGC | 3780 |
| 20 | AATTAATTGA  | TATTCATTCT | CAATAACTGT | GGTATGATAT | GTAAGGAAAT  | CATGACTTAT | 3840 |
|    | GTGTGAGTGA  | ACGATCATCT | ATACATCCGT | TCACTTCATC | TCATGACTTT  | CTATATTTAA | 3900 |
|    | TTTTTACAAG  | GAGTGACATC | TGTGAATAAC | ACACAATCTT | CACCACGCAG  | TAATATTATT | 3960 |
| 25 | ATTGCGATTA  | TGTTGTCTGC | ATTAACATAT | TGGTTGTTTG | CACAATCATT  | TATTAATATA | 4020 |
|    | GGACCTCTCG  | TTGGTCAAAC | ATATCAAACC | TCTCCTGCCG | TGTTAAATTT  | ATCTATTAGT | 4080 |
|    | TTAACTTCCT  | TCGCCACAGG | TATCTTCATG | GTGGCTGCAG | GTGATATTGC  | TGATAAAATA | 4140 |
| 30 | GGACAACCTGA | GAATGACATA | CATGGGTCTC | ATAATCAGTA | TGTTTGCATC  | TCTTCTATTA | 4200 |
|    | ATTATATCGG  | ACATCACTGC | ACTGCTCATC | ATCGGTAGAA | TTTTACAAGG  | TCTATCAGCA | 4260 |
|    | GCTATCTTGT  | TACCTTCAAC | AGTTGGCGTG | TTAAATAATC | AATTTAAAGG  | AGAACATTTA | 4320 |
| 35 | AGACGAGCGA  | TTAGTTATCT | AATGATTAGT | ACTGTTGGTG | GCATCGGCCT  | AGCTGGTGTT | 4380 |
|    | ATCGGCGGTT  | TAATTGCCTC | AAATTTCCGA | TGGCAAACGA | ATTTCAATCAT | TAGTATAGTC | 4440 |
| 40 | ATTGCTTTCA  | TTGCCATATT | GCTTCTAAAA | GGCACACCTG | AAAAAGTAAG  | TCAACATAGC | 4500 |
|    | CACCGTCATC  | CATTCGATTA | CAAAGGTATG | TCGATTTTCG | CTGTTATGAT  | TGGTAGCTTT | 4560 |
|    | ACATTATTGT  | TAACACAAGG | ATTCGAACAA | GGTTGGTTTA | GTACATTTTC  | AATCATTTGT | 4620 |
| 45 | CTGAGCATTT  | TTATCaTCAc | TACGTTGATA | TTCATCATCA | TCGAACGTCG  | ACATGAAGTA | 4680 |
|    | CCTTTTATTG  | ATTTCTCAGT | ATTACGCAAC | CGTCCGTTCA | TTGGTGCATT  | TTAAATAAAC | 4740 |
|    | TTTGTTTTAA  | ATAGCGGTCT | AGGCGTAACA | GTGGTCTTTT | TCATATATGC  | TCAAACACAC | 4800 |
| 50 | CTTGGTTTAT  | CAGcTGCGCA | ATCTGGACTT | GTTACATTGC | CATATGCCAT  | TGTGGCAGTT | 4860 |
|    | CTTGGTTTAT  | CAGcTGCGCA | ATCTGGACTT | GTTACATTGC | CATATGCCAT  | TGTGGCAGTT | 4920 |

|    |  |      |
|----|--|------|
|    | TCACAATATG TCATTGCAGT TATCATTGGT TTCGTCATAT GTGCGATAGG TAATGGTTTA  | 5040 |
|    | GTCGCAACAC CTGGACTTAC GATTGCAATT TTCAGTATGC CTAATGAAAA AGTTGGTTTA  | 5100 |
| 5  | GCTACAGGAT TATATAAAAT GAGTGGTACA TTAGGTGGCT CCTTTGGTAT AGCACTAAGT  | 5160 |
|    | ACTACAGTTT TCAGTATGTT ACAACTAAAC TATGCACCAA GTGTAGCTGC AACCGTAACA  | 5220 |
|    | TTTATAGTCA GCATTGTATT GATGATCCTT GGCTCATTGT CTGCATACAT GATCATTCCA  | 5280 |
| 10 | AAAACAGTTA AATCTTAAAT ATAATAGAAG AATTATGTTT CGAAATATCT TTATCACTTT  | 5340 |
|    | AAAATGATAT ACAAGAAATC CAAGAAAAAT AAGCGAACTG AATAAATAAA GATTCAATTA  | 5400 |
| 15 | ACGCATCAGT ATTAGGATTC ACTCTAAAAC GATTAATAGT TTTATAAGAA GGTGTTTGAT  | 5460 |
|    | CTTGAGCTAA CCACATCATT CGAATACTGT CATGAAGTAA TTTCTCTATT CTACGACCAG  | 5520 |
|    | AAAATACAGA TTGAGTATAT GCATATAAGA TGATTTTTTAA CATCATCTTT GGATGATAGG | 5580 |
| 20 | ATGTTGCGcC ACGATGATGT CTGAATTCAT CGAATTTGCT ATCAGGTATC GTTTCACAA   | 5640 |
|    | TTTCATTAAC ATGTCGCGAA ATATCATTTT GAGGAATTCT AACAGAAGTT TTTATTGGTA  | 5700 |
|    | GTGTAAGTTG GGCAAAGTGT CTTATTTTTT TAAAGTATTT CAAAGTAAAA TTACATGTTA  | 5760 |
| 25 | ATACGTAGTA TTAATGGCGA GACTCCTGAG GGAGCAGTGC CAGTCGAAGA CCGAGGCTGA  | 5820 |
|    | GACGGCACCC TAGGAAAGCG AAGCCATTCA ATACGAAGTA TTGTATAAAT AGAGAACAGC  | 5880 |
|    | AGTAAGATAT TTTCTAATTG AAAATTATCT TACTGCTGTT TTTTAGGGAT TTATGTCCCA  | 5940 |
| 30 | GCCTCTTACT CTAATTATAT TCACTATCAA TTAGACAAAA TGGCCATTTT CAAATATCAC  | 6000 |
|    | GCGTTGTTTC TGACCTTGAA TATATTTATT ATAATTCTCT TTTTGAAAAT CAGTTAACAT  | 6060 |
| 35 | TAATTTAGAT GTACCGTATT TTAACACTTT TTGCATTGTT TCTATTCTCA TTTTCTAAA   | 6120 |
|    | TAACCATCCA TCTTTTAAACA CAATACGATT AACAGCATCA TATGATAATT CTACTGTTTC | 6180 |
|    | TTTAATTTCA AATGTCTTGA ATGAAATAAT CGTGCACATT AAAACGTAT CACCAAAGTA   | 6240 |
| 40 | ATAAACATCT AAATCATCAC GTTTATGTTG TCCAACAAAC AAACGACCAT ATTGGAATTC  | 6300 |
|    | TTTTTCTGGA TATTTCAATT CTAAAAAACT AATAATCTCT TCTTCTTTTA ATTTGAATTG  | 6360 |
|    | CATTTAAAAA CATCCTCTCT TAAGTTTTAA CAAGCCTTAA TTAATAATTT TTTCAATCAC  | 6420 |
| 45 | ATAGTTCAAT ATACATCATT TCGTTATGTT TTTTAATACT TTGTTCAAAA ACAAATATTT  | 6480 |
|    | TATTCCTTAA AATAATGACT TTTGTATTTT TAATCACAAT AAACATTTTA AAATCTTGT   | 6540 |
|    | TATCATAATC ATTTAAAGGT ATTAACCTTA ATAATATATT CTCTCGTCTC AACCTTAATC  | 6600 |
| 50 | GTATACTTCA GACGTCTGTT TGTAGACAAT AAAAGTCATT CACGTCTTCA TATGTCATCA  | 6660 |
|    | AATGTTTATC ATGATATGAT GAATATAATA ATCGGGTATA TAACTGTATG ATTAATTACA  | 6720 |

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|----|--|------|
|    | TGGTGTATCA GTTACAACTG TGTCACATAT TTTAAATCAT AATGATAGTC GTTTTTCCGC  | 6840 |
|    | AACAACGATA AAAAACGTAC ATGCTGTTTC AGAACGTTTA GGCTATGCCC CTAATAAACA  | 6900 |
| 5  | TGCAAAACAA TTGCGCGGCA GTAAAATTCA AACTATTGGC GTCATTTTGC CTAGCTTAAC  | 6960 |
|    | AAATCCGTTT TTCTCAGCAC TGATGCAAAG TATTCATGAC CATAAACCAT CTGATGTTGA  | 7020 |
|    | TTTATGCTTT TTAACATCTA CAGCAACTGA TTTGTATGAC AATATTAAAC ATTTAATTGA  | 7080 |
| 10 | TCGAGGTATT GACGGATTAA TTATCGCACA ATACATATCA TCCCCGGACG CCCTAAATAA  | 7140 |
|    | CTATCTAAAG AAACATCATG TACCTTATGT CGTACTGGAT CAAAATGACC ATCAAGGCTA  | 7200 |
|    | TACAGATTTT GTTCGGACAA ATGAATATCA AGGTGGACAA CTTGCAGCAC AACATTTAAT  | 7260 |
| 15 | AGAACTCGGT CACAACCATA TGATAATTGT TGCACCATAT GACATGATGG CGAATATGTC  | 7320 |
|    | GACTCGTGTC GCTGGATTG TCGATACTTT GCGCGCGAAT CAATTGCCAG AACCACAAAT   | 7380 |
| 20 | CGTCCATACT GAATTATCTA AGCGCGGTGG GCTAACCATT GTTGATGACA TCATGGTTCA  | 7440 |
|    | ATCTGCCACT GCAATCTTCG CTATTAACGA TGAACGCT ATTGGCATT TACGAGGACT     | 7500 |
|    | AATTGAACAT GGCATCAGTA TCCCGAAAGA TATCTCATTA ATAGGTTATG ACGACATTGA  | 7560 |
| 25 | TTATGCAGCG TACGTCTCGC CACCTTTAAC TACTGTGGCA CAACCTATAA CTGATATTGG  | 7620 |
|    | CAAAACATCT TTAACCTTAT TACTTCAACG ATTACAGCAC TTAGATAAAT CCATTGATAT  | 7680 |
|    | GATTGAATTA CCAACGACTT TAAAAATTG TGCAACAACT GGCTATCATC TTTCAAACCTA  | 7740 |
| 30 | ACTACGTATC TTCCGAAATA TACTCATCAT TGTTAGGCCC TTAGCGTTGC TTTAATGCTG  | 7800 |
|    | AGGGTTTTTTA ATCATAATTA TTTTACTAAG AAATTAAAAT AATAATGTAT GAATTTTTAA | 7860 |
|    | ATATGATTTA AACGTTTTCA GTTTTTATGA AAACGCATGC ATTTTACAAA TAAAAATGGT  | 7920 |
| 35 | ACGATGGCAC TGGTAAAACG TTTTACTAAA AACAAATCAT GAGGTGTATA ACATGAGCAT  | 7980 |
|    | TGTTGCATTA CTTATCGGGT TAGGCCCCCTT AATTGGCTGG GGCTTCTTCC CAACAGTCGC | 8040 |
| 40 | TTCAAAGTTT GGTGGTAAAC CTGTACATCA AATTATCGGT GCTACTGTAG GTACGTTAAT  | 8100 |
|    | CTTCGCTATT TTATTAGCCG TAGTCACATC AAGTGGCTTC CCTACTGGAA CCAATTTGCT  | 8160 |
|    | ATTCGCCTTA TTATCAGGTG CAGGATGGGG ATTCGGACAA ATCATTACAT TTAAAGCGTT  | 8220 |
| 45 | CGAATTAGTC GGCTCATCTC GTGCCATGCC AGTCACAACA GCATTCCAAT TATTAGGCGC  | 8280 |
|    | ATCTTTATGG GGTGTCTTTG CATTAGGAAA TTGGCCAGGC ATTGGTCATA AAATCATTGG  | 8340 |
|    | ATTTACAGCT TTAGTCGTTA TTCTAATTGG AGCGCGTATG ACAGTTTGGA GTGAACGCAA  | 8400 |
| 50 | AGAAGCAAGT AACGCCAAAA ATTTACGTGCG TGCAAGTGGTA CTTCTGTAA TTGGTGAATT | 8460 |
|    | TTTCTGTTAA TTGGTGAATT TTTCTGTTAA TTGGTGAATT TAACTGCCTT             | 8520 |

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|----|--|-------|
|    | AGCAGAGAAT CCATTCCGTA ATAAAATTAC GTGGTTACAA ATTATTTTCAG GTTCTTCTT  | 8640  |
|    | TGCATTTGGT GCTTTAACAT ATCTTATTTT AGCACAACCT AATATGAATG GTTTAGCAAC  | 8700  |
| 5  | TGGATTTATT CTTTCTCAAA CATCCGTTGT GCTTGCTACA TTAAGTGGTA TTTATTTCTT  | 8760  |
|    | AAAACAACAT AAAACGTCAA AAGAAATGGT TATTACAATC ATCGGCTTAG TACTCATTTT  | 8820  |
| 10 | AGTAGCCGCT TCTGTTACAG TATTTATAAA ATAAGGAGTG TAGATGTCAT GAAAAAATCA  | 8880  |
|    | GCTGTTTTAA ATGAACATAT TTCAAAGCA ATCGCGACAA TTGGTCATTT TGATTTATTA   | 8940  |
|    | ACGATTAATG ACGCTGGCAT GCCAATTCCA AATGATCATC GTCGTATCGA CCTAGCTGTA  | 9000  |
| 15 | ACTAAAAACT TACCACGCTT TATTGATGTC TTAGCTACAG TGTTAGAAGA AATGGAAATC  | 9060  |
|    | CAAAAAATAT ACTTAGCAGA AGAAATAAAA GAACATAACC CTACACAATT GCAACAAATT  | 9120  |
|    | AAACAATTGA TTTCATCGGA AATCGAAATC ATTTTCATTG CTCACGAAGA AATGAAAAGT  | 9180  |
| 20 | AACTTAGCTC ACCCATTAATA TAAAGGTAAT ATTCGTACTG GTGAAaCAAC GCCCTACTCT | 9240  |
|    | AATATTGCAT TAGAATCGAA TGTTACTTTT TAAAAGTTAT AACTTGAAAG GAGCGTACAC  | 9300  |
|    | ATGACCAACA AAGTTGTTAT TTTAGGTTCA ACGAATGTG ATCAATTTTT AACAGTTGAA   | 9360  |
| 25 | AGATATGCAC AACCAGGCGA AACATTACAT GTTGAAGAAG CACAAAAGC ATTCGGCGGA   | 9420  |
|    | GGTAAAGGTG CCAACCAGGC TATTGCCACT GCACGCATGC AAGCAGACAC AACATTTATT  | 9480  |
| 30 | ACTAAAATTG GCACTGATGG CGTTGCTGAT TTCATCTTAG AAGATTTTAA AGTAGCTCAT  | 9540  |
|    | ATTGATACAT CATATATTAT CAAAACAGCT GAAGCAAAAA CGGGCCAAGC CTTTATCACT  | 9600  |
|    | GTGAATGCAG AAGGACAAAA CACCATCTAT GTTTATGGTG GTGCGAATAT GACGATGACA  | 9660  |
| 35 | CCTGAAGATG TTATTAACGC AAAAGACGCT ATAATCAATG CAGACTTTGT CGtTGCACAA  | 9720  |
|    | TTAGAAGTAC CCATCCCGGC TATTATATCT GCATTTGAAA TTGCCAAGGC ACATGGTGTG  | 9780  |
|    | ACGACAGTAT TAAATCCTGC ACCAGCGAAA GCATTACCTA ATGAATTATT ATCATTATC   | 9840  |
| 40 | GATATTATTG TGCCAAACGA AACAGAAGCC GAATTGTTAT CTGGGATTAA AGTAACTAAT  | 9900  |
|    | GAACAATCTA TGAAAGACAA TGCCAATTAC TTTTATCTA TAGGCATTAA GACTGTTTTG   | 9960  |
| 45 | ATTACGCTAG GTAAGCAAGG TACATATTTT GCTACTAAAA ATCAAAGCCA ACACATCGAA  | 10020 |
|    | GCTTATAAAG TAAATGCGAT TGATACAACT GCTGCAGGCG ACACATTTAT TGGTGCATTT  | 10080 |
|    | GTCAGTCGCT TAAACAAGTC GCAAGATAAC TTAGCAGATG CTATTGATTT TGGTAATAAA  | 10140 |
| 50 | GCGAGCTCAC TCACTGTACA AAAACACGGC GCGCAAGCAT CTATTCCTCT ACTAGAAGAA  | 10200 |
|    | GTAAATCAAG TTAAATGAA TCAAACACAG CTATGATATG AAGGTTTAGC ATATAACATG   | 10260 |
| 55 | CAACATTCGT ATATCATGGC TGTGCTTTTT TATCTTTATA AAACATCATC TATTAGAAAT  | 10320 |

TTTGTAATCT TTTTAAC TTC CAAATTaTCG CATATAAATA TGCTATATTA ATGATAATAA 10440  
 TTATCAATTA AAAGGAGGTT ATGCTATGTC TAAAGAAGCT GGTACATACAT TTTTAGCTAA 10500  
 5 ATTAGGAAAA ACTCGTCTAC GCCCCGGTGG TAAAGAAGCA ACAGATTGGT TAATACAACA 10560  
 AGGGGCATTT TCACAAGATA AACAAAGTGT AGAAGTGGCA TGTAATATGT GCACAACATC 10620  
 TATTTATCTA GTCATACAT ATGGCTGTCA CATTCAAGGC GTTGATATAA ATAAGAAAGC 10680  
 10 ATTAGAAAAA GCACAGGAAA ACATTTTCAGC AGCAGGTCTT GAATCATATA TTCAAGTTCA 10740  
 ACAAGCGAAT GCTGTTAAAT TGCCCTTTGA TGACAATCAA TTCGATATCG TTTTAAATGA 10800  
 AGCAATGTTA ACAATGTTAC CCATCGCCAT AAAGGAAAAA GCATTACGCG AGTACTACCG 10860  
 15 AGTCTTAAAG CCTGGGGGTA TCTTGTTAAC ACATGATATT GTCATCGTTA ATGAATCACA 10920  
 TGCCACACAT GTTGTTAAAT CATTATCTGC AGCAATTAAT GTCAATGTCT CACCGCAGAC 10980  
 20 GAAACTTGGC TGGTTAGATT TATATAATCA AGCTGGTTTT AATCATGTGC ATTATCATAC 11040  
 TGGTCCAATG AGTTTAATGA CACCAAAAGG TTTAATTTAT GACGAAGGTA TTGTTGGAAC 11100  
 TATAAAGATT ATCAACAATG CTTTGAAAAA AGAAAATCGA CCAATGTTTT GTAAAATGTT 11160  
 25 TAAAACGATG ACTAAATTGC GTAAAGATAT GAATTATATT ACTTTTGTCTG CTAAAAAAGA 11220  
 GCACTAAATA TAATGCCACT AACTGTACTT TGTATCTATG TTTGACTATC ACTTTAATTT 11280  
 CTTTGTGACA CTAATCATCT ACTTAACAAT ATCGTTATCG TTGATTAGTA AGTCATCAAT 11340  
 30 TTTGGTTAAA GACTTTTATA AACACTCAAA CATTAACTAT ATACATAGTT AGTGGCATT 11400  
 TTTTTTyCTn AAAATTTTAA CmTCmCGGGr TtGGGAmCrG AAaTGrtAWT TcGCrmAAaT 11460  
 TAWTcT 11466

(2) INFORMATION FOR SEQ ID NO: 445:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 2176 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 445:

TTACATAGTT AACACTAGTT AATCTATTAG TTAACATTAG TTAATAATTA GTTAATTTCC 60  
 ATTTGTATTC TCATGTGATA AATTCTAAAA GCATACaATA AATTTAATAT GTAAAAAGAA 120  
 50 AGGGAATACA CATGAAAAAT AAATATATCT CGAAGTTGCT AGTTGGGGCA GCAACAATTA 180

|    |            |            |            |             |             |            |      |
|----|------------|------------|------------|-------------|-------------|------------|------|
|    | AAGTATTACA | TCTAAAAGGT | ATCACAGAAG | AACAACGTAA  | CCAATACATC  | AAAACATTAC | 360  |
|    | GCGAACACCC | AGAACGTGCA | CAAGAAGTAT | TCTCTGAATC  | ACTTAAAGAC  | AGCAAGAnCC | 420  |
| 5  | CAGACCGACG | TGTTGCACAA | CAAAACGCTT | TTTACAATGT  | TCTTAAAAAT  | GATAACTTAA | 480  |
|    | CTGAACAAGA | AAAAAATAAT | TACATTGCAC | AAATTAAAGA  | AAACCCTGAT  | AGaAGCCAAC | 540  |
|    | AAGTTTGGGT | AGAATCAGTA | CAATCTTCTA | AAGCTAAAGA  | ACGTCAAAAT  | ATTGAAAATG | 600  |
| 10 | CGGATAAAGC | AATTAAAGAT | TTCCAAGATA | ACAAAGCACC  | ACACGATAAA  | TCAGCAGCAT | 660  |
|    | ATGAAGCTAA | CTCAAAATTA | CnTAAAGATT | TACGTGATAA  | AAACAACCGC  | TTTGTAGAAA | 720  |
|    | AAGTTTCAAT | TGAAAArGCA | ATCGTTCGTC | ATGATGAGCG  | TGTGAAATCA  | GCAAATGATG | 780  |
| 15 | CAATCTCAAA | ATTAAATGAA | AAAGATTCAA | TTGAAAACAG  | ACGTTTtagCA | CAACGTGAAG | 840  |
|    | TTAACAAAGC | ACCTATGGAT | GTAAAAGAGC | ATTTACAGAA  | ACAATTAGAC  | GCATTAGTTG | 900  |
| 20 | CTCAAAAAGA | TGCTGAAAAG | AAAGTGGCGC | CAAAAGTTGA  | GGCTCCTCAA  | ATTCAATCAC | 960  |
|    | CACAAATTGA | AAAACCTAAA | GTAGAATCAC | CAAAAGTTGA  | AGTCCCTCAA  | ATTCAATCAC | 1020 |
|    | CAAAAGTTGA | GGTTCCTCAA | TCTAAATTAT | TAGGTTACTA  | CCAATCATTa  | AAAGATTcAT | 1080 |
| 25 | TTAACTATGG | TTACAAGTAT | TTAACAGATA | CTTATAAAAG  | CTATAAAGa   | AAATATGATA | 1140 |
|    | CAGCAAAGTA | CTACTATAAT | ACGTACTATA | AATACCAAGG  | TGCGATTGAT  | CAAACAGTAT | 1200 |
|    | TAACAGTACT | AGGTAGTGGT | TCTAAATCTT | ACATCCAACC  | ATTGAAAGTT  | GATGATAAAA | 1260 |
| 30 | ACGGCTACTT | AGCTAAATCA | TATGCACAAG | TAAGAAACTA  | TGTAAGTgAG  | TCAATCAATA | 1320 |
|    | CTGGTAAAGT | ATTATATACT | TTCTACCAAA | ACCCAACATT  | AGTAAAAACA  | GCTATTAAAG | 1380 |
| 35 | CTCAAGAAAC | TGCATCATCA | ATCAAAAATA | CATTAAGTAA  | TTTATTATCA  | TTCTGGAAAT | 1440 |
|    | AATCAATCAA | AAATATCTTC | TCTAGTTTTA | CATCATTTTT  | TAAATAATTT  | TCGTAACAAA | 1500 |
|    | CCGTGATTAA | AAAGAACCGT | TGATTCTCAA | TCGAATCTAC  | GGTTCTTTTT  | TCATTTTCCA | 1560 |
| 40 | TCAATTAAAT | GCTTCTTCGC | TATTTGTCAG | CCCACTTTTT  | TACCTGCAAC  | TTGTTAAATA | 1620 |
|    | ATCCTTACAT | CGTTAACGAA | TAGTTCATCA | TTTAGTTGAA  | TCAGCTCAAC  | TTTATTAACT | 1680 |
|    | TCATATTTTC | ACAAACTATT | GCGCAATCCA | TTCCTTTTCC  | ACTACAAGCA  | CCATAATTAA | 1740 |
| 45 | ACAACAATTC | AATAAAATAA | GACTTGCAAA | GCATAGTTAT  | GTAGCTATAT  | AAACGCCTGC | 1800 |
|    | GACCAATAAA | TCTTTTAAAC | ATAACATAAT | GCAAAAAACAT | CATTTAACAA  | TGCTAAAAAT | 1860 |
|    | GTCTCTTCAA | TACATGTTGA | TAGTAATTAA | CTTTTAACGA  | ACAGTTAATT  | CGAAAACGCT | 1920 |
| 50 | TACAAATGGA | TTATTATATA | TATGAACTTA | AAATTAAATA  | GAAAGAAAGT  | GATTTCTATG | 1980 |
|    | ATTAAAAaA  | AAATATTAAC | AGCAACTTTA | GCAGTTGGTT  | TAATAGCCCC  | TTTAGCCAAT | 2040 |

CmTyCAAArG AcACaGACAT TACTAGCCAA CGATTTAGCT ATnACTCCAA ACCTTCCATT 2160  
 GGATTGGTA AAGGnT 2176

(2) INFORMATION FOR SEQ ID NO: 446:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1557 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 446:

|    |  |      |
|----|--|------|
| 15 | AAAAGCATGG CTTAAATGAA GTACGCTATA ACAAATTACA AGAACATGCT ATTGTTATGC  | 60   |
|    | ATCCGGCACC TGTGAATAGA GGAGTAGAAA TACAAAGCGA TTTAGTAGAA GCTTCAAAAT  | 120  |
| 20 | CAAGAATTTT TAAGCAAATG GAAAATGGCG TTTACTTAAG AATGGCAGTC ATTGATGAAT  | 180  |
|    | TATTAAAATA GGTAAGGGGA CGAAAATGAT GAAATTAATT AAAAACGGTA AAGTATTACA  | 240  |
|    | AAATGGCGAA TTACAACAAG CAGATATTTT AATTGATGGT AAGGTAATTA AACAAATTGC  | 300  |
| 25 | ACCTGCAATT GAACCAAGCA ATGGTGTGTA CATCATAGAT GCGAAAGGTC ACTTTGTGTC  | 360  |
|    | ACCTGGATTT GTCGATGTTT ATGTTCAATTT ACGTGAACCT GGTGGTGAAT ATAAAGAGAC | 420  |
|    | AATTGAAACT GGTACTAAAG CTGCTGCTAG AGGCGGATTT ACAAATGTAT GTCCAATGCC  | 480  |
| 30 | TAACACAAGA CCGGTACCAG ATTCTGTAGA ACATTTTGAA GCTTTACAAA AATTAATCGA  | 540  |
|    | TGACAATGCT CAAGTACGTG TATTACCTTA TGCTTCAATT ACAACACGTC AATTAGGTAA  | 600  |
|    | AGAATTGGTT GATTTCACAG CACTAGTAAA AGAAGGTGCC TTGCGTTTA CAGATGACGG   | 660  |
| 35 | TGTAGGAGTA CAACTGCAA GCATGATGTA TGAAGGCATG ATTGAAGCTG CAAAAGTAAA   | 720  |
|    | CAAAGCCATC GTAGCACACT GTGAAGATAA TTCATTAATC TATGGTGGTG CAATGCATGA  | 780  |
|    | AGGGAAACGC AGTAAAGAGT TAGGTATACC AGGTATTCCA AACATTGTG AATCTGTTCA   | 840  |
| 40 | AATCGCAAGA GATGTACTAT TaGCTGAAGC AGCAGGTTGT CATTATCATG TATGTCATGT  | 900  |
|    | TTCTACTAAA GAAAGTGTTA GAGTCATTCG TGACGCTAAA CGCGCAGGCA TTCATGTTAC  | 960  |
|    | AGCTGAAGTT ACACCACACC ATTTATTGTT AACAGAAGAT GATATTCCTG GTAATAATGC  | 1020 |
| 45 | CATTTATAAA ATGAATCCAC CATGAGAAG TACTGAAGAT AGAGAGGCTT TGTTAGAAGG   | 1080 |
|    | GTTACTAGAC GGTACAATTG ACTGTATCGC AACAGACCAT GCACCACATG CACGTGATGA  | 1140 |
| 50 | AAAAGCACAA CCAATGGAAA AAGCaCCATT CGGAATTGTT GGTAGTGAAG CAGCATTCCC  | 1200 |
|    | ATTATTATAT ACGCATTTTG TAAAAATGG TGATTGGACA TTACAACAAT TAGTAGATTA   | 1260 |

TTATGCAGAT TTAACAATCA TTGATTTAGA TAGTGAACAA GAAATTAAAG GAGAAGATTT 1380  
 CTTATCAAAA GCAGATAATA CACCATTAT CGGCTATAAA GTTTATGGAA ATCCGATCTT 1440  
 5 AACAAATGGTT GAAGGCGAAG TTAAATTTGa GGGGGATAAa TArTATGCAA gCAAACGTTA 1500  
 TCTAGTGTTA GAAGACGGTC TTTTACGAGG CTACCGTTAG GTCTGATAAC TTACTION 1557

## (2) INFORMATION FOR SEQ ID NO: 447:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1799 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 447:

GCTAGAAATm TTGmATGaCA ATACAACTCT GTTAAAaTGA TGGACGTAGA CAAATATGCG 60  
 TATTGACGCT TTATTTTAAA AATTaACATG CTTATAACAT GTTTATAGAA GGAGATTAAC 120  
 CTATGAACTA TCaAGTTCTT TTATATTATA AATATATGAC GATTGATGAC CtGAACAGTT 180  
 25 TGCTCAGGAT CACTTAGCCT TTTGTAAAGC ACACCATTTA AAAGGTAGAA TTCTTGTTTC 240  
 TACAGAAGGT ATTAACGGCA CATTATCTGG TACAAAAGAA GAAACCGAAC AATATATGGC 300  
 ACATATGCAT GCCGATGAAC GATTCAAAGA TATGGTGTTC AAAATTGATG AAGCTGAAGG 360  
 30 ACATGCTTTT AAGAAAATGC ATGTACGTCC TCGAAAAGAA ATCGTTGCTT TAGATTTAGA 420  
 AGATGACGTC GATCCAAGAC ACACAACTGG CCAATATTTA TCACCTGTAG AATTTAGAAA 480  
 AGCTCTTGAA GATGATGACA CAGTCATTAT TGATGCACGT AATGATTATG AATTTGATTT 540  
 35 AGGTCATTTT CGAGGTGCAA TTCGTCCAAA TATCACACGT TTTAGAGATT TGCCTGACTG 600  
 GATTAAAGAG AATAAAGCGT TATTTGCAGA TAAAAAAGTG GTTACGTACTION GTACTGGTGG 660  
 CATTGATGC GAAAAATTTT CTGGATGGCT TTTAAAAGAA GGTTTCGAAG ATGTAGCTCA 720  
 40 ACTTCATGGC GGTATTGCTA CATATGGTAA AGATCCTGAA ACAAAGGTG AATATTGGGA 780  
 CGGTAAATG TACGTATTTG ATGACCGTAT CAGTGTTGAT ATCAACCAAG TTGAAAAaAC 840  
 AATTATTGGT AAGGATTGGT TTGATGGCAA ACCATGTGAA CGTTATATTA ATTGCGCTAA 900  
 45 CCCAGAATGT AATAAACAAA TATTAGTTTC TGAAGAAAAC GAACTAAAT ATTTAGGTGC 960  
 ATGCTCTTAT GAATGTGCTA AACATGAGCG TAATCGTTAT GTTCAAGCAA ATAATATTAG 1020  
 50 TGATAATGAG TGGCAACAAC GTTTAACAAA CTTTGATGAT TTACATCAAC ATGCTTAGTT 1080  
 TTAATTAAAT ACCTTTCAAA ACACGCTTTG AAAATCCGAT TTATAAAGGT TTTCAAGGC 1140

|    |  |      |
|----|--|------|
|    | TAAATTTTAA TACTGCGGGG TGTCTTAAAA TGCACATTTT AGTAACAGGG TTTGCGCCTT  | 1260 |
|    | TTGACAATCA AAATATCAAT CCCTCATGGG AAGCTGTGAC TCAACTAGAA GATATTATTG  | 1320 |
| 5  | GCACACATAC AATCGATAAA TTAAAACTAC CAACCTCTTT TAAGAAAGTA GATAATATTA  | 1380 |
|    | TAAATAAAAC GTTGGCATCT AATCATTATG ATGTTGTA CT AGCTATAGGA CAAGCTGGTG | 1440 |
|    | GTAGAAATGC CATTACCCCA GAACGTGTCG CCATTAAATAT TGATGATGCA CGTATTCCAG | 1500 |
| 10 | ATAATGATGA TTTTCAACCT ATTGATCAAG CCATTCACTT AGACGGTGCG CCAGCTTATT  | 1560 |
|    | TTTCAAATTT ACCaGTTAAA GCAATGACTC AAAGTATTAT TAATCAAGGA CTTCTGGAG   | 1620 |
|    | CACTTTCAAA TAGCGCAGGT ACATTTGTTT GTAATCACAC ACTTTATcAC TTAGGTTATT  | 1680 |
| 15 | TACAAGATAA GCATTACCCT CACCTACGAT TCGGATTAT TCaTGTGCCA TACATACCAG   | 1740 |
|    | AGCAGGTcAT TGGTAAACCC GATACACCAT CTCATGnCCA TTGAGGAAAA GATnAGTTG   | 1799 |

(2) INFORMATION FOR SEQ ID NO: 448:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1341 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 448:

|    |  |     |
|----|--|-----|
| 30 | ACTTGGTTTT TTATTGTTTA TAAATAAAAC TCACCTAATA ATGTTTTTCAT AATCTTCTTC | 60  |
|    | GACTACTTAA TTCTTTAAGA TATTCGTGAA AAGAGACATT ACACTAGTTA ATTTTCAAAC  | 120 |
|    | AATACAAAAA GCGTCTACCT CCTACATATA ATTGTAGCGG AGATAGACGC TTAATATTTA  | 180 |
| 35 | TTTAAAAATT ATTTTAAACC ACCGAATGTC ATAACATCAC GGGCAATCAT ACTTTCTTCA  | 240 |
|    | TCTGTTGGAA TAACGACAAC TTAACTGGT GAATGAGGAT AGTTAATAAA TCCTTCTTTA   | 300 |
|    | CCACGTAGTA AGTTTTTCATT TTTCTTAGGA TCCCAGTAAA CACCCATAAA TTCTAAGCCT | 360 |
| 40 | TCAAGAACTT TCGCACGAAT TTCTACTGAG TTTTCACCGA TACCTGCTGT AAATACGATA  | 420 |
|    | ACATCAACAC CATGCATTCT CGCAGCATAT GATCCAATAT ATTTGTGAAT TTTAGAAGCA  | 480 |
| 45 | AATACATCTA AAGCCATTTG TGAACGTGCT TTACCTGATT CAGCTTCTTC TGATAAGTCA  | 540 |
|    | CGTAAATCAC TAGATGTACC TGATAATCCT AATAAACCTG ATTCTTTGTT TAAGATTTC   | 600 |
|    | AATACTTGTT CAGCAGTTTT ACCTGTTTTT TCCATAATAA ATGGAATTAA AGCAGGGTCA  | 660 |
| 50 | ATATTACCAG AACGAGTACC CATTGTTACA CCAGCAAGTG GTGTGAAGCC aTTGATGTAT  | 720 |
|    | CAATAGATTT ACCGCCATCG ATAGCTGCAA TTGATGCTCC ATTACCAATG TGACATGAAA  | 780 |

TATGGCTTGT ACCATGGAAA CCATACTTAC GAATGCCATA ATCTTTATAA TAATGATATG 900  
 GCAAGCTATA TAGATATGCT TTTTCAGGCA TTGTTTGATG GAATGCTGTA TCAAAAATTG 960  
 5 CCACATGAGG GATATTTGGT AATAATTTAC GGAAAGCACG AATACCCAtC AAGTTaGCTG 1020  
 GGTTGTGaAG CGGTGCTAAT TcGCTTAATT CTTCAATTTT CTTTTCaACC TCATCAGTAA 1080  
 TAGCTACTGA TTCAGGGAAT TTTTCACCAC CATGTACAAC ACGGTGACCT GTTCCATCGA 1140  
 10 TATCGTTAAT ATCATTAAATA ATATTGTGCG CTTTAAAAGC ATCCAACATG ATATCAACTG 1200  
 CCTCAACGTG ATCCTTGATA TCTTGTACTG TTTTAACTTT TTCCCCGTTG ACTTCAATTG 1260  
 TAAAAATTGA ATCCTTCAAT CCGATTCTTT CTAATAAACC TTTGTACT AATTCCTCTT 1320  
 15 CAGGCATTCT AATTAATTGA A 1341

## (2) INFORMATION FOR SEQ ID NO: 449:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1529 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 449:

TTTTGAAGAT ACTACCGATG AAAATAGACA AAAGATTTTT CAATATTTAT CACCTGAaG 60  
 30 AGTTGCAAAT TTCTTTGATC AATTAGATAT TGATGACGAT GAATATGAGT TGCTATTTGA 120  
 TAAGATGAAT GCGACATACG CAAGTCACAT ATTAGAAGAA ATGTCATACG ACAATGCAGT 180  
 AGATATTTTA AATGAGTTGA CTAAACCAAA AGTTGCTAGT CTTTAAACAT TGATGAATAA 240  
 35 AGATGACGCG AATGAAATCA AAGCATTACT TCACTATGAT GAGGATACGG CCGGCGGTAT 300  
 TATGACGACG GAgTATTTAT CACTTAAAGC GCATACGCCT GTTAAAGAAG CATTATTATT 360  
 GGTCAAAGCG CAaGCACCAG ACGCAGAAAC AATATATGTT ATATTTGTCTG TTGATGATGA 420  
 40 TGGTAAATTA GTAGGTGTTT TATCGCTAAG AGATTTAATT GTAGCTGAAA ATGATGCTTA 480  
 TATTGAAGAT ATTATGAATG AACGTGTCAT TAGTGTGAAT GTAGCAGACG ACCAAGAAGA 540  
 TGTGCTCAA GTTATGAGAG ACTATGATTT CATGGCTGTA CCTGTTATAG ATTACCAAGA 600  
 ACATTTGCTT GGTATCATCA CGATTGATGA TATTTTAGAC GTTATGGATG AAGAGGCTAG 660  
 TGAAGACTAC TCTCGTTTAG CCGGGGTATC AGATATCGAT TCGACTAATG ATTCAATCAT 720  
 50 TAAAACAGCA TTA AACGTT TACCATGGTT GATTATTTTA ACATTTTATG GAATGATTAC 780  
 TCGGACAATT TTAGGGAGAT TCGAAAAAAC ATTAGAAAAT GTAGCGCTAC TCGCAGCGTT 840

|    |  |      |
|----|--|------|
|    | TCGTAACATT ACGACAGGGG AAATTAATGA GCAAAGTAAA TTTAGAATTG CATTAAAGAGA | 960  |
|    | AGCAGGAAGT GGTGTATTAT CGGGTGTGT ATGTTCAACA ATATTATTTA CAATTATTGT   | 1020 |
| 5  | TGCAATATAT CATCAGCCAC TTTTAGCATT AATCGTTGCA GGAAGTTTAA CTTGTGCGAT  | 1080 |
|    | GACGGTGGGG ACGTTTGTAG GTTCGATGAT TCCATTATTG ATGAATAAAT TAAATATCGA  | 1140 |
|    | TCCAGCAGTG GCTAGTGGAC CATTTATTAC AACAAATTAAT GATATTATTA GTATGTTGAT | 1200 |
| 10 | TTATTTTGGT TTAGCTACAT CATTTATGGC TTACTTAATT TAAGGAGGAG TTATGGAGTT  | 1260 |
|    | TTTATCTTTA GTTATGTTG TTTTAGCAGC GTTTTTAACT CCAATAATTG TCAATCGATT   | 1320 |
|    | AAATATTAAT TTCTTGCCAG TTGTTGTTGC AGAAATTTTG ATGGGGATTG TGATTGGAAA  | 1380 |
| 15 | TTCATTTCTA AATATAGTAG AAAGGGATTC AATTCTAAAT ATTTTATCAA CGTTAGGCTT  | 1440 |
|    | TATCTTTTTA ATGTTTTTAA GTGGTTTAGA AATTGATTTT AAAGCTTTTA AAAAAGATAA  | 1500 |
| 20 | ACGCGCACGT CAAGGACAAA ATGATGATG                                    | 1529 |

(2) INFORMATION FOR SEQ ID NO: 450:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1827 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 450:

|    |  |     |
|----|--|-----|
|    | TTCTGGAAAC CAAAGTATTG TCATCTTCTA CTAGTAGTAT rGGCATCCAT ATCACCCAAT  | 60  |
|    | ATCATTTAGT ATATTTTATA TTTTCTCCTG ATTTTAAATCG ACTTTGAAAA TCTTTAATCC | 120 |
| 35 | GGCAGTCAAC TTCAAAGCCA TGAATCATCA TTTTTTGCAT TGGTGCTTGT ATAAAGTAAT  | 180 |
|    | AAATCGGCCA AAATAATCGA GGGATATAAT CGTATAGATG TATATAAACG ACTGCCGACT  | 240 |
|    | CTTTGATTAA TCTAAATTCT AACTTCCCTT GATTAAGTGT ATATTTTTTC ACTAAACTTC  | 300 |
| 40 | CACTCAATAA AATTAAAGTT ATTATTCCAT CAGCTGTTTC TTCTATTTTA AATACTGCGA  | 360 |
|    | GCGGTGCGAC CTTATTCTTA ATATATATCT TAAATTGATC ATGTGATTTT TCTGTTTTCA  | 420 |
| 45 | CAAAAGTTCC TTTAGTGTA CCCATCCATG CAATAAAATG GTTTACAACG TTCTTTAATG   | 480 |
|    | TCCATCCCTT TGGTAAACT ACCTTCATCG TTGATCTAAC ATCATCATAC TTTGAAACTT   | 540 |
|    | GTAATTCTAC ATTAATAAA GAACGTTTAA AAATAAATT TGTGTTTCT ACAGGTGTAC     | 600 |
| 50 | CATATGCACC TAGGCGTTCA ATTGTTTCAT TATCATAACG ACTCCAGGT ATGTAGATTA   | 660 |
|    | CTTTTTTTAC TTGATTGATA GCCGCTGCTC GACCAAAATT ATCTGCTGCG ATTAATGTTA  | 720 |

|    |  |      |
|----|--|------|
|    | CAGCAATATC TATTTGATTC ATTGCTGCAA CAACCTGTTC GTAATGAAAT ATATCACACT  | 840  |
|    | GAATCCAAGT CATTTCAACA TCATCTGTTT KTTTATTGTC TGGATATTTT GATATAGCAA  | 900  |
| 5  | AAAGTTCAGC ATCATTTTCA ATCACTTCAC TTAAATACTT ACCAATATAT CCTGTTCCAC  | 960  |
|    | CTGCTAATAA AACTTTAGGT TTCATCTAAA ATACTCCTTT AAAGTGTAAAC CAAAAAACAT | 1020 |
|    | ATTACTCCAC CTTTtagTTA CATATATATT ATAATAGTAG CAAATGTTTT AAAATTTCAA  | 1080 |
| 10 | AATACTGGAG GCTTTTTATG GCCCATATTA TACGTAGAGT TAGTATCAAA GATGTAGAAA  | 1140 |
|    | ATTTCAATTC AATGTTAGCG AACATATACG ACGAATCTCC GTATATGTTT TACACACCAG  | 1200 |
|    | GAGAAATATGA TCCTAGCGTC ACATCGGCTA GTAAACAATT AGAAGAATAT ATCACTTCTC | 1260 |
| 15 | CGCATAAAGT CATCTTCGTT GCTGAAAGTG ATGAACAACT CGTTGGCTTT GCCTTTGTTA  | 1320 |
|    | ATACGACACC ATTTCAACGC ATTAAACATG TTGCTAAAAT TGATTTAGGT GTAAAGAAAT  | 1380 |
| 20 | TATATCAACA TCGTGGAATT GGCCAAGCAC TTCTTGATGC CATTATGGCT TGGTGTTTAA  | 1440 |
|    | ACAATCAAAT ACACCGAATT GAAGCAAATG TACCACTCAA TAACCAACCT GCCCTCGAGC  | 1500 |
|    | TTTTTAAAAG TGCCGATTTT CAAATCGAAG GCGTTTTAAA AGATAAGTTA TTTATCGATG  | 1560 |
| 25 | GTAAATATTA TGATGACTAT ATGATGGCTA AAATCTTAA TTAAAGCTAT TTTATCATAA   | 1620 |
|    | TCTTGATCA GAATCGTATA ACAACGAATT TAATGGTTAC CTAATACATT ACTCATACTT   | 1680 |
|    | ATCAATGTTA TCTAATCTCA AATAAATACG TACACTCTTA TTCATTTATC AAATTTAAAT  | 1740 |
| 30 | TCAAAATANA ACACCACTAA TGTGTAATTG ATTAAGTATC AACTACGATT AGTGGTGCTT  | 1800 |
|    | TATATATGTG GTTAGTTTTT CnACTA                                       | 1827 |

## (2) INFORMATION FOR SEQ ID NO: 451:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 616 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 451:

|    |   |     |
|----|---|-----|
| 45 | ATATAGATTA ATGTTTGTTA TTTGTACTGT GTTGCCAGT GACATTTATT ATAAAACATA  | 60  |
|    | TGACGTTATT CTATGkTGTA CTCATTtTCT ATATTGTAGG TTTATTAACG ATTAGAAGTA | 120 |
|    | TTATTAAAAA GTTGAAATAT CAGGAAACAT TATTACGAGA CTAAAAAACT TCCATTGGCA | 180 |
| 50 | TGTATGTTGT AAAGGTGCAT GTAATGTTGA ACGCCAAATG ATACGGCGTT CAGATTACAT | 240 |
|    | TAGCATCTAT ACGTTAACAG CATAACCAAT GGAAGTTTTT TTCGAATCTA TTCTTTTATT | 300 |

AATGCGTCTT TTGAAAAATG GTCATTAAAG GCATCAGATT GCTTAAAGTC TTCGTATGCA 420  
 TGTCGATCAG CAAATCCGAA ATAAATTTTG TATGTTGTAC CTTTAGCAGG TCTTAACAAA 480  
 5 CGATAGCTTT TAAAGCCACC AAAGTTTCTG AAATTATCGT CTACACTAAT CAGTTTCTTT 540  
 TCAAGTTGAT ATGCATGATC TTCTGTTGAT GGaATGAAGa TTGCACaATA GAAATGaTGT 600  
 TCAcTGAATT CACCAA 616

10 (2) INFORMATION FOR SEQ ID NO: 452:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 944 base pairs  
 (B) TYPE: nucleic acid  
 15 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 452:

GCACGAGTGA TTAAACGGTT AATCAATGAA ACATTTGATG CAAATTACAT TGAAGTTATT 60  
 GAGGGAGGAA TTGAAGAAAC GCAAACGTTA ATTCATTAC CTTTGTACTA TGTCTTCTTT 120  
 25 ACAGGAAGTG nAAATGTAGG CAAAATCGTT TATCAAGCTG CCAGCGAAAA TTTAGTTCCT 180  
 GTGACATTAG AAATGGGCGG TAAAtCTCCa GTCaTCGtTG ATGAAACAGC GAATATTAAA 240  
 gTTGCTAGTG AGCGCATTTG TTTTGGGAAA TTCACTAATG CCgGCCaAAC ATGTGTTGCa 300  
 30 CCAGATTACA TTTTAGTACA CGAATCTGTA AAAGATGATT TAATCACAGC CCTATCAAAA 360  
 ACGTTGCGTG AATTTTATGG TCAAAATATA CAACAAAGTC CAGATTATGG CCGCATTGTA 420  
 AACCTTAAAC ATTATCATCG TCTGACTTCA TTACTTAACA GTGCACAAAT GAATATTGTA 480  
 35 TTTGGTGGTC ATAGTGATGA GGATGAACGT TATATAGAAC CAACATTGTT AGATCACGTT 540  
 ACAAGTGATT CAGCAATTAT GCAAGAAGAA ATTTTGGTGC CTATCTTACC GATTTTAACG 600  
 TATCAGTCAT TGGATGAAGC AATAGCCTTT ATTCACCAAA GACCAAAACC TTTGAGTTTA 660  
 40 TATTTATTTA GCGAAGATGA AAATGCTACA CAACGTGTAA TAAACGAGCT ATCATTGCGC 720  
 GGCGGCGCTA TTAATGATAC ATTGATGCAC CTAGCGAATC CTAAATTACC ATTTGGTGGT 780  
 45 GTTGGTGCCT CAGGTATGGG ACGCTATCAT GGTAAATATT CATTCGACAC TTTTACACAT 840  
 GAAAAAAGCT ACATTTTCAA ATCnACACGA TTAGAATCAG GTGTCCATTT ACCACCATAT 900  
 AAAGGTAAAT TTAAATrCAT CAAAGCTTtC tTTAAAnATT AATT 944

50 (2) INFORMATION FOR SEQ ID NO: 453:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 944 base pairs

(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 453:

|    |  |      |
|----|--|------|
|    | TCTCCAGTAG ACCTTGTGTA TGAACAGTTT CTTTCATATG AATGAACATC GTTTTTAAAG  | 60   |
| 10 | TTTGTTTTCAA CTCAGCCTTA TCAGGATAAT ATCTAGAGAC AGTCGTCTCT GGCATCTCCA | 120  |
|    | TTGTATGATA TTTAACCTTA TGCAGCGACC CATGATTTTC GTTATAAACA AATGTATGAT  | 180  |
|    | TCAC TTCATC GAAATCATGA TCTTCTCCTG CAATCCAAAA AACTGGTACT ACTTGTGCT  | 240  |
| 15 | TATGTGTATC CGTTAATTCC TTAGATAAAG TAATGATTGa AAATATTTTA TGGAATGTAT  | 300  |
|    | ACAATGGTCC CCCGAAAAGC CCTGCTTGTT GTCCACCAAT CACAAC TTTT GAACCATTAG | 360  |
|    | CTAAATGTTG TATGTTTAAAT TCTTGTTTAC TTGAAAGCTT GAAAGCTTTA AATCACTCAT | 420  |
| 20 | ATATTCACGA ATAACATTCC CTAAATGCCG TTCTCTTCCA TTATTTTCTT TAGACATCCT  | 480  |
|    | TTTTTCAAAA CTAGTTTGTT GAGCTGCATC ATATTGAAAT AATCCTGTTA TTACAGGGTC  | 540  |
|    | ACTGCTCTTT ATTTTGGTA TAACTGATC TTTTTCATTT AAATAACTA CTTTACAGTC     | 600  |
| 25 | CATGTTTTTT CTCCTTAAGT ACGCGATTAC AAATAATAGT ATAAAGTCTA TACCGGTGAT  | 660  |
|    | TGACAATTTT ACGGCTTGAA AATCAATTTA ATCATGGAAA ATTTATAATA TTCATTGTTT  | 720  |
|    | TACATTTTCA AATCAATGAA AAACACAAGT GGTTTAATGT ATAATAATAG TAGTAAACAA  | 780  |
| 30 | ATAAGGGGTA GATAAATATG AGTGAAATCA AACGTCTTGA AATTAATTAC AAAACTGACG  | 840  |
|    | AATTATTCGA AAAC TTTAGA GCGTTTGGCA ACAAAGACTT ATACATGGTC AATGAGTTAA | 900  |
| 35 | ACGGTCAAAT GATTGATGCA AGTTCAGATT CACCATTTTA TGGCATATTT GTCGaGATCA  | 960  |
|    | ATTAGGAGCT AGAATGGCAT TACTAAAAAA AGGTGATGTC GAAGAAATCT ACTTCCCAGA  | 1020 |
|    | TTTTGAAGAT TATATATTAT TATGGAAGTT AGAAGTATTA CCAAATATC AAAACAGAGG   | 1080 |
| 40 | GTACGCTTCA GAATTGATTG ATTTTGCAA GAGTTTCAAT ATGCCAATTA AAGCCATTGG   | 1140 |
|    | CAGAAATGAT TCTAAGGATT TCTTTTACA TCATGGATTT ACAGATGTGG AAGCTAAAAA   | 1200 |
|    | TATAGAGGGA CATGATGTCT TATTGTGGAA ACCATAAGAT AATAATATTC GACACTACGA  | 1260 |
| 45 | GCATGAAAAT GCATCTTTTC GTAGTGTCTT TTTTACAATT ACTTCTTAA GCTAATATAA   | 1320 |
|    | GTaAATCATT TTCAAATTAT TTGTCTTAAC GTACAATATC ATTTAGTTGT TTCCATGrAT  | 1380 |
|    | TAATTTTATA ATCAGGTATA ATTCCTGGAT TATGATCAAA TCCTCTAAaA TTAAACCAGC  | 1440 |
| 50 | AAGTAGCTAT ACCcGCATTG ATTCCACCTA GAATGTCAGA TGTTAnAGAA TCTCCaACTA  | 1500 |
|    | TAATCGAGTG CTGtCTTTCA TCCTCACCAA TATCATTTAA AACATAATTA AAAAATTCCG  | 1560 |

55

|    |            |            |            |             |            |            |      |
|----|------------|------------|------------|-------------|------------|------------|------|
|    | ACGGCGTCTG | ATTTAACCTT | CTCTTTTGCG | TTTCGGTTAC  | ACCATTAGTA | ACAATATATA | 1680 |
|    | AATCATGTCT | TTTCGATAAT | TCGACAATTG | TTTCTAATGT  | TTGATCAAAG | TATTTAACTT | 1740 |
| 5  | TAGCTTCTGC | TAATCCATTT | CTAAATAACA | CATCTGCACG  | ATGCCCATCA | ACTTCCATTT | 1800 |
|    | GATGATGTTT | GAAGTAATTC | ACAAATCGTT | CTGATAATAC  | TTCAGACTTC | GkTAATTTAT | 1860 |
|    | TTTGkTGAAA | AGCTTCCCAA | TGTTGGTGaT | TGaTTTTTTTT | AAATGkTAAA | AAATCATCCy | 1920 |
| 10 | TTGTTGCTTT | ATGATTAAAA | ACATTCGCCA | TATAGTGAAn  | CGCCCATTCT | TCTGcATCAT | 1980 |
|    | AAAAATCAAC | AATTGTATCA | TCAAAGTCTA | TCAAAATATT  | TTTATATCCC | AATTTCCCCA | 2040 |
|    | TCTCCTATAT | TGTCTATGTA | TCTAAATCTT | AACAGAGGCT  | CAAATTTCTG | CAAATAAAAT | 2100 |
| 15 | AAACTGAGTG | CATAACATTA | AAGTATGCTC | ACCCAGTTTA  | TTTTAAAGAA | TATTAGTTAT | 2160 |
|    | TATATTAGAA | TCCAAATAAT | TTACCTAGTA | AACCCACACC  | GTTAGCAACG | ATGTCTACGA | 2220 |
|    | TACTTGTGCC | TAATTTCACA | CTATCATGTT | GTTGTGCAGC  | TTGCACAGTA | TTTGCGATTG | 2280 |
| 20 | CTTCTGCTAG | TCCAGTCATT | TAAATCTCTC | CCTCACCTTT  | GAAATAATAC | TGATTACTTA | 2340 |
|    | CATAACATAT | TGAAATTAGA | ATCCGAATAA | TTTACCTAAT  | AAACCTACGC | CATTTTCAAC | 2400 |
| 25 | GATGCTCACA | ATGCTTGTGC | CTAATTTTGC | GCCATCATTA  | TTAATTGCTG | CAGTTACGGT | 2460 |
|    | ATCTTTAATT | GCGTTAAATA | AACCTTCCAT | TGAAAACACT  | CCTTAAATTT | TAAATTTGAA | 2520 |
|    | GATAACAAAA | ACGTGCGTAG | yTTTTAAATC | ACCGAAATGT  | TATTCGCTTA | ACGTTTTGTT | 2580 |
| 30 | GTTGTTATTT | TAAAATAAAT | TTGATGCAAT | TAGTTTGTTT  | ATCCGCACAA | CATCTTATAA | 2640 |
|    | TGTACTTAAC | TGTATTTTAA | AGAGAAAAGA | AATACAGTTA  | GGCATTCAAA | ACTGTATTTA | 2700 |
|    | ACACAATTAA | GTTGCCTGAA | TTCGTATTTA | AGTCTTATTG  | AACCTTTTTA | GATAAATAGC | 2760 |
| 35 | TCTATAATAG | TGAAAAATAT | AAACATTTTT | TATTTACAAG  | GTATTGCTAA | TTTAAGTTCA | 2820 |
|    | TTTAGATATA | ATAATTCTTG | TGTTGTAAAA | CGTGTCTGG   | TAGCTCAGCT | GGATAGAGCA | 2880 |
|    | ATGGCCTTCT | AAGCCATCGG | TCGGGGGTTC | GAATCCCTCC  | CAGGACGTTT | ATAGGTATTT | 2940 |
| 40 | TTATACGCAT | TACCAAACAA | AAGAGTTCCG | TGATTACGGG  | GCTCTTTTGG | TTTTGAATTT | 3000 |
|    | CAGTAATATA | GTATGATGCG | TCACCAAAAC | GTCCCCCGCA  | TAAGCCCCGA | AAATACAGTA | 3060 |
|    | ATTAAAACAA | GCATGCTTAT | TCGTTATAGA | ATTTTTTGAC  | ACACAATTGA | CACGCGTCTG | 3120 |
| 45 | ACACTTGTTT | ATACATTTTT | AATTAAGTAA | TTTTGTGCTC  | AAATTTCATC | TATACTGCAC | 3180 |
|    | CTGAACTACA | CCAACACTAC | ACCAAGATTT | TTAACACTCA  | CCATTTGCAT | GCGTAGAGAT | 3240 |
|    | TTTTATTATT | ATATTATTCC | TATAGATTTT | GATACTATTC  | AAAATTTTAG | GGACTTTTCA | 3300 |
| 50 | GGGGCCCGAA | ATCCTATAAT | TATAATTATA | TACATCTAAA  | AAAAATAACC | ACGTCCATCG | 3360 |

|    |             |            |            |             |            |             |      |
|----|-------------|------------|------------|-------------|------------|-------------|------|
|    | ATACTATTGG  | CAAATTTATA | AAGTAGTTCA | GCGTTTTTCA  | ATGACATATT | GTCTAATGAT  | 3480 |
|    | CTTTCATTTT  | TTCTCATTCT | GTGTATTGTG | CTTTGTGGAA  | CTCCTGTTTG | TTTCGATATA  | 3540 |
| 5  | TGTAAACTGC  | TCAAATCACT | GTCTAATAGT | TTTTGAATTT  | GATTTCTCAT | TTTGTAACACC | 3600 |
|    | CCCTTGTAAG  | TCTTCAATCA | TCATTTAAAT | TAAATAATTA  | CTTTTCCACA | TATTCCAATA  | 3660 |
|    | TTTAGGTTGC  | AAAGCATACC | TCAAATATCA | TTAATTTTGA  | GATTTAAATG | TCAATTATGT  | 3720 |
| 10 | GTCTATCAAT  | CCAATATACA | TACTCTAATA | ACGTAATAGT  | ACACACTCTT | CTTATTAAAT  | 3780 |
|    | GGCCATAGCT  | ATCATGATAT | AATTAGTGAA | GAAAATCACA  | TAAGAAAGGT | TGTAAATCAT  | 3840 |
|    | GAGACTTCAA  | AAAGCACCTC | TAGTAACGTC | AGGACTAGTC  | TTAGGATTAT | TAGGCCTGGG  | 3900 |
| 15 | TAATCTATTA  | AAAGACTTAT | CTCTTACTTT | AAACGCTGTT  | TGCGGAATCT | TTGCTTTCTT  | 3960 |
|    | GATTTGGATT  | CACCTTTTAT | GTACTATGAT | CAAATATTTT  | AATAATGTGA | AAGAACAATT  | 4020 |
| 20 | AAACAGTCCT  | CTAGTTTCAT | CAGTGTTTAC | AACATTTTTC  | ATGTCTGGCT | TTTTAGGTAC  | 4080 |
|    | TACTTATTTA  | AATACATTTT | TTAGTAACAT | AACTTTATATC | AATAGCTTAA | TAACGCCTAT  | 4140 |
|    | TTGGATTTTA  | TGCCTTGTGG | GAATTATGAC | GCATATGATT  | ATTTTTTCAA | TAAAATATTT  | 4200 |
| 25 | AAAAGATTTT  | TCACTTGAAA | ATGTTTATCC | TTCGTGGACT  | GTACTTTTTA | TTGGTATTGn  | 4260 |
|    | TATCGCAGGA  | TTGACGGCAC | CCGTTAGCGG | ATATTTTTTC  | ATAGGTCAAT | TAACAGTAAT  | 4320 |
|    | ATATGGCTTT  | GTAGCTACTT | GTATTGTCTT | ACCTATAGTT  | TTCAAGCGAT | TAAAAGCATT  | 4380 |
| 30 | TCCATTGCAG  | ACGTCAATCA | AACCGAACAC | ATCGACAATT  | TGTGCACCAT | TTTCTTTAGy  | 4440 |
|    | CGCTGCAGCA  | TATGTTATAG | CTTTTCCTAA | GGCGAATGCT  | TTTATCGTAA | TTATATTTTT  | 4500 |
|    | ACTATTAGCT  | CAAATATTTT | ATTTTTATAT | CATTATACAA  | TTGCCTAAAT | TACTAAAAGA  | 4560 |
| 35 | ACCTTTTTTCG | CCCGTATTTT | CAGCTTTCAC | ATTCCCTTTA  | GTAATCTCAG | CAACTGCTTT  | 4620 |
|    | AAAGAACAGT  | TTGCCTGTAC | TTATGTkTCC | AGACATTtGG  | AAAGGkCTTT | TGTTTATCGA  | 4680 |
|    | AGTGTTATTA  | GCCACTGTAA | TAGTACTTAG | AGTCTTTATA  | GGATATCTTC | ACTTCTTTTT  | 4740 |
| 40 | AAAAAAGGAA  | AAACAAGATA | AATTTCTnCG | TAATGCGTCT  | CAGTAACACT | ATTACCAAGA  | 4800 |
|    | ATTAACACGT  | ATATTTAATA |            |             |            |             | 4820 |

(2) INFORMATION FOR SEQ ID NO: 454:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 4358 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

|    |   |      |
|----|---|------|
|    | ATTTGGATCT TTAATATCAC CAATATTTTT AATATCTTCC GGATTCAATC CATATACTTG | 60   |
|    | TACTGTATCT GAGTATTTAA TTGTGAAATA ATCACCTGAT TTAACCTTGT CATCAACTGT | 120  |
| 5  | AATTTGTGAT TTAAATGATA AATAATCTTG GGCTGGTACG ATTTTATTGT TTTTATCTGC | 180  |
|    | ATCAACGACA GTtAATGTTG TATTTGATGT GATTAAATCA TTAACATTTT TAGCCTCTGT | 240  |
|    | TGATGATGGC TGTACTGCTG CTATACGCAT TCTTGATTTC AAACGTTTAG GTGCTGTACT | 300  |
| 10 | TTTTGGCAAA ATGATATCTG CATTATTTTC ATTATTTGAA TTACTATTGT TATCAACAAG | 360  |
|    | AGTTTCATCA TTACTCTTGA TAGCATCACT TTAAACATTT AATGTAGTTG ATTCAGTTTT | 420  |
|    | GGCATCTACC TTTTTGTTTT CCTCATTAGT TGGTTGAACA TTTACCACTG ATTTATTCTC | 480  |
| 15 | TTGCAAATCA GGTGTGAACG CTTCTTGATT ACTTATAGTT TGTTTAGTGT TTAAATCTTC | 540  |
|    | ATTCGTagAT TTTGGTGAAG CTTGCTCATC TGATTTGGCA GTTGAAACTT CAACTTTATT | 600  |
|    | TCCAGTGGTA GATTGTACAC TTTCTTTTTC TATTAATTTA TTCCCATTTG AAGTCGTTTC | 660  |
| 20 | ATTACCTTGa GATGATACCA TTTCTTTTTG ATTATCATTT TTAGTATTGT CTTCTTGATT | 720  |
|    | TAGTTGCTGC ATATCAACTT TATCACTCGA TTGATTATCA CTTGCTGAAG TTGTCGCTcG | 780  |
|    | TTCAATTCTT TATTAGTACT TTCTGCAGCC TTTGCTTCTT GGTTCGCCAG ACCAAAAATT | 840  |
| 25 | AATGTTGTAC CTACTAAAAT TGATGCTGTT CCCACTGTGT ACTTTCTAAT CGAAAATTTA | 900  |
|    | TTTAATCGAT TGGATACCAT GCCTTTCCTT GTTATTGCCG TTTTATTTTC TCTGTTTAGC | 960  |
| 30 | ATTAGATTAC TCCTAATTCA TCAAATTTTT AAATAATACA ATTGTTTTAA ATACAAAAAT | 1020 |
|    | GSTATATCAAT ATAGTATTAC ATTTTTAGAT AAAGCACAAT ACTTTAATTA TTTTCTTTA | 1080 |
|    | TCGTAAAACG TTATTTAACA TTTGTGTTTA AATAAAAGTT TTTATGAGTt TTGTAATCTT | 1140 |
| 35 | TATTTAATCA TCATAAAAAA TAGTATTATT TGCCCTTGAA ATTAATATCT TAGCTTTTCT | 1200 |
|    | AATTCATAGA CAATTACATT TCTGTAACAA ATTAAATTGT ATCTATTCCT TAAAGATTTT | 1260 |
|    | TTGTTTTATA TCTGGGAATT TCTAAACAGA AAAAACCAGG CCACATGGAC CTGGTTAAGT | 1320 |
| 40 | TAATCATATT ATTTATTTTG TTTTTTACGA CGACCGAATA ACAATAATGA TCCTAATGCC | 1380 |
|    | GCGAATAATC CACCGAATAA TGTGCCATTA TTTGAATTAT TATTTTCACT ACCTGTTTCT | 1440 |
| 45 | GGTAATGCTT TAGCTGTTTT ATGCTGATCT TTAACCGTAC TCATTGGTTT AGCCGGAGTA | 1500 |
|    | TGTTTACCTG CATCTGAATC TGAATCGCTA TCTGAATCTG AGTCGTTGTC TGAGTCCGAA | 1560 |
|    | TCGCTATCTG AATCTGAGTC GCTGTCTGAA TCTGAATCGC TATCCGAGTC TGAGTCGCTA | 1620 |
| 50 | TCTGAGTCTG AGTCGCTATC TGAATCTGAA TCGCTGTCTG AGTCTGAATC GCTATCTGAG | 1680 |
|    | TTTGAATCTG TCTCGAATC TGAGTCGCTA TCTGAATCTG AATCGCTATC TGAATCTGAG  | 1740 |

|    |            |            |            |            |            |            |      |
|----|------------|------------|------------|------------|------------|------------|------|
|    | TCTGAATCTG | AGTCGCTGTC | TGAATCTGAA | TCAGTGTCTG | AGTCTGAGTC | GCTGTCTGAG | 1860 |
|    | TCTGAATCGC | TGTCAGAATC | TGAGTCGCTA | TCTGAGTCTG | AATCTGAATC | ACTGTCTGAG | 1920 |
| 5  | TCCGAATCGC | TATCTGAATC | TGAATCGCTA | TCTGAGTCTG | AGTCGCTATC | CGAATCTGAG | 1980 |
|    | TCGCTATCTG | AGTCTGAGTC | GCTATCCGAG | TCTGAATCGC | TGTCTGAGTC | TGAGTCGCTG | 2040 |
| 10 | TCTGAATCTG | AATCGCTATC | TGAGTCTGAG | TCGCTGTCTG | AATCGCTGTC | TGAATCTGAG | 2100 |
|    | TCGCTATCTG | AATCTGAGTC | GCTATCTGAG | TCTGAATCGC | TGTCAGAATC | TGAGTCGCTA | 2160 |
|    | TCTGATGTTT | CTTCTTCGTA | GTAGCCATTA | TCAAGTGTGA | AATCATCATG | ATCCGTAATT | 2220 |
| 15 | GTTACATCAA | CTTCGCCACC | ATCGGCATCT | TTATCATCTT | CAGTTGTATT | TGTACCTGTT | 2280 |
|    | TGAGTTAAGC | CAGCAGGTTT | TTCAAAGATA | ACTTTGTATT | TACCACTATC | TAAATTATCA | 2340 |
|    | AAGCGGTATT | TACCATTTTC | ATCTGTYTCA | GTTGTACCAA | TTACTTCGCC | TTTTTCGTTT | 2400 |
| 20 | TGCAAAGTAA | CTTTAACACC | TTTAATTCCT | TTTTCAGTCG | AATCTTGTTT | ACCATCTTTA | 2460 |
|    | TTACTGTCTG | ACCAAACATA | ATCACCTAAA | CTATATTTTG | GTGTTTTGTA | GAATCCACTA | 2520 |
|    | TCTAATGTCA | TGTTGTCAGC | GTCTTTAATG | ACACCTGTTG | TAGTTAGTCC | ATCAGAATCT | 2580 |
| 25 | ACAGCATCAT | CTGTACCTAC | ATTTGCAGTT | GTCGGTGTAT | AACCGGCTGG | TGTTGAAAAC | 2640 |
|    | TCTACACTAT | AAGTTCCATT | GCTTAAACCA | GTGAACTGAT | ATTTACCATT | TTCATCTGTT | 2700 |
|    | GTCGTACGAT | CTAATTCTTT | ACCGTTACTA | TCTTTAAGAA | TGACATAAAC | ACCTTTAATC | 2760 |
| 30 | CCTTTTTCAT | TGGCATCTTG | TTTACCATCT | TTATTTGTAT | CTTCCCATAC | ATAGTCACCT | 2820 |
|    | AGATTATATT | TCTTTTGGTC | GCCATTAGCA | GTTGATGAGC | CATTACATT  | TGAATAACTA | 2880 |
| 35 | TTTGACCAAC | TATATTTAGT | TTTGTGAGTG | TCTAAAGTAT | AATCAATTTT | TCCATTATCT | 2940 |
|    | GTTGAACTAT | TATCTGGATA | AGCAACTTGT | TGAATGATGT | ATTGTTTATT | GCTGCTTGTT | 3000 |
|    | TGGCCTTTCA | TTAAATCGAC | TGTAGCTGTT | TTATTATCAT | TACTATAAAT | AACATCGAAT | 3060 |
| 40 | TGATCAGTAA | CATCTTTAAG | TTTTGAAGTA | TCAGGGGTGA | AACTATCCAC | AAATTGATTT | 3120 |
|    | TGATCTGTCA | CTTCGTAAAT | TTTGAAGTTT | TTTGCATTG  | GATTAAATTT | ATATCCAGTT | 3180 |
|    | AAATTAGTAA | CAAACGTTTG | TTTAGTATAT | GTATTTTATG | GTTGATTTAC | ATATGCAGTC | 3240 |
| 45 | ATATTACGCG | ATAAATCTTC | ATTGTTAATA | TAGTTTGTAC | TTGAAATAAG | CGGTTGTGCT | 3300 |
|    | TTTTTATTAC | CATAATCGAC | AATGATTTCT | TCGCTATATG | TATCATTACC | TAAAGTTACT | 3360 |
|    | TCCATTTTAT | AAGCTGTTTT | ATCAGTTGTT | GCATTTTATC | GTTTCGCAAA | TGCAACTTGT | 3420 |
| 50 | TCAAAGCTAC | CTCTAACATT | TGTATATTGA | TCTACATAGT | TCGTAAAAGT | ATATGTTGTT | 3480 |
|    | GTGTTTGTG  | TACTATCATA | AATACCTTTT | GCAATAATAT | TACCTTGGGC | ATTATATAAA | 3540 |

GTAAATGTAT CGCCCTCTTT AACAGAATCA TCGATTGTGT AATTTGCTTT TAATTTTAAA 3660  
 ACATCACTTG AAGTTGCCCA AAATTCAGTT TTACCAGTAG TCTGATTAAC ATGTCCTTTA 3720  
 5 TCAATCGCAA TGTCAATATT TGAAAAATGT ACTTTATCAT TAACATTTGT TCCTTGTTGT 3780  
 GGAGCTGCAA CAGTATTCAC TGCCATGCCA TTAAAGTTC TTGTTTAAAT AGTCGTTGTT 3840  
 TTAGGTGTAG TTGAAACATC TTTTGCTTGT GTTAAATTAC TTTATCAGT TTCATTACTA 3900  
 10 TATGTAGTTG ATGATTTATC ATTTGTTGTT ACATTGCTAG TTTTGTAGT AGATTGATTA 3960  
 GCTGTAGCGT TTTGTGGTGA TTGCATGTTA CTACTAGTTT CTTTAACTGT TGCACTATCA 4020  
 CTCATTGTCA CTTTAGGCTG ATCTGCAGTT GCAGTTTGC GATTGTCTTT TAGTTGACGA 4080  
 15 CTATCAACTT TTTTAGTTGT TTTATTCTCA CTTGGGGCTG TCGTTTCATT TTTTGATTGA 4140  
 TTTAATTCTC CATTGCTATG TTCTGCCGCT TTAGCTTCAT GACCACTTAA CCCAAAAATC 4200  
 AATGTTGTCC CTACTAAAAT TGAAGCAGTA CCTACAGAAT ACTTTCTTAT CGAAAAATTTG 4260  
 20 TTTAATCGAT TTGGTATCAT GCCTTTnCTA TTTGTnGCTG TCTTTTTATA ATTCAATTAA 4320  
 TAATACTCCT TTAAATATC AAAATTTGAT AAATATAA 4358

(2) INFORMATION FOR SEQ ID NO: 455:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1060 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 455:

35 TTGACTTCTT AATTCAGCAT TTTCTGCACT TAATGCTTTG TTCTTTTAA TAAGTTGCTT 60  
 TCTTGATAA ACTTCGGTAT CTATTTTACT ATTACTATAC CTTTGATTTA AAATAATAT 120  
 40 ACCAATTAAT GCTACAATGA TAATGATAAG TACAACATAA AAAGACATTT TTCACCAAT 180  
 CCTTTTGAC TTCTTTAACT TTGTATACAA TAATAATTAA TAAAGATTAA TTGTTATTCA 240  
 ATTTCCACA TTTTATTAG TTGATTTTAG TTCATCATTG TTATAATCAA ATTATAAACT 300  
 45 GACAGATATT GATGTTCAAT GAATATGACG TGAAAGATTC GTGAATTCAA GTTTATGTCG 360  
 AATTTATGTT ATAACGGTCA TTAAATGAC AGAATTAGGT CACTCATAGT ATTTTGAAGA 420  
 TTGAATTCAT TAATTTTAAA ATGTATAATG ATATTTGTGA AAGCGCTTGC TTAGGAGGTG 480  
 50 TATTTGAGAG TGAATGAAAT GAATGCTAAA GAACAATTAG TGGACAATTT AATGAAAACA 540  
 TCAAGGCTGAA GTTGCCATGC AGCTTTTCTT AAATGATGAA 600

AAAGTTATTC CGCAATCATA TCGGTTACTA TACATAGATA AGCAAGATCA AGCAATAGCT 720  
 AAAGAAGATT TATCACTTTC AAAAATTGCA AAAGTTTATG TGCAATATGA TGATACAACA 780  
 5 ATAATGAGTA TTTTCGTTTA TGATGTAGTA AACGATGAAT GGATTTTATG ATTGGATCCG 840  
 AATATACGTA TACCTAAGAG TAACATATAC TTCCATAGTT TAAATTGGGA TGTGGATATA 900  
 TTAAACCGGA GtCGTCTAAT GTATGTCTAA TGCaCACCAT CAGaTCATCA TtATCCATTA 960  
 10 TAAcGrGCAT AGTGCATAAn yACTwCatTT TaTTaaATTG AGaGGgGCAC GATAGGTGCA 1020  
 TCAGGACATA ATATAGGAAG CATCAACGCG TGAnCAGGTC 1060

## (2) INFORMATION FOR SEQ ID NO: 456:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1262 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 456:

ATAATnACTA AATACnAAAG TTAACTGTC TTAATAATAA TGACTATGTT ATAATTTTAA 60  
 AAGTGATATT TTGGGTAATC GCTATATTAT ATAGAGGAAA GTCCATGCTC ACACAGTCTG 120  
 AGATGATTGT AGTGTTCTGT CTTGATGAAA CAATAAATCA AGGCATTAAT TTGACGGCAA 180  
 30 TGAAATATCC TAAGTCTTTC GATATGGATA GAGTAATTG AAAGTGCCAC AGTGACGTAG 240  
 CTTTTATAGA AATATAAAAG GTGGAACGCG GTAAACCCCT CGAGTGAGCA ATCCAAATTT 300  
 GGTAGGAGCA CTTGTTTAAAC GGAATTCAAC GTATAAACGA GACACACTTC GCGAAATGAA 360  
 35 GTGGTGTAGA CAGATGGTTA TCACCTGAGT ACCAGTGTGA CTAGTGACAG TGATGAGTAC 420  
 GATGGAACAG AACATGGCTT ATAGAAATAT CACTACTAGT TTAGCTCTCC TAGATGATGG 480  
 AGAGCTTTTT TCATGAAAAG AACACTTAAA ATTAACGCCy TGTCTTGaTA tAATGACaCT 540  
 40 GCcTTGTTTT AAAATAGTAA GCGGATGCgT TAATGTATCA GCGATTAAAT TTGTTGGAAA 600  
 TGTATAAAAA ACACAAGCTA AGAATAAAAT ACCTGTATAA AAGGAGAATC ATATATGTTT 660  
 CAATTACTTG CAGTTTGTCC GATGGGATTA GAAGCTGTTG TTGCTAGGGA AATTCAAGAA 720  
 45 TTAGGCTATG AAACAAATGT TGAAAATGGT CGTATATTTT TTGAaGGAGA CGCAAGTGCA 780  
 ATTGTAAAGG CAAATTTATG GTTGCGCACA GCAGACCGAA TCAAAaTTGT TGTGACGCT 840  
 50 TTTAACGCAA CAACGTTTGA CGAATTATTC GAACAAACCA AAGCGCTCCC TTGGGAATCT 900  
 ATAATTGATA AAGAGGGTAA CTTCCAGTT CAAGGTAGAA GCGTTAAATC AACACTACAT 960

|   |   |      |
|---|---|------|
|   | TATAACGAAA AAGGTTGGTT AAATGAATCA GGTGCCAAAT ACCCTGTTGA AGTTGCCATT | 1080 |
|   | TTAAAAGATA ATGTATTATT GACTATCGAC ACATCAGGTT CTGGTTTGAA CAGACGTGGT | 1140 |
| 5 | TATAGATTAG CACAAGGTGA AGCACCAATT AAAGAAACGT TGGCAGCAAG TTTAATCCGT | 1200 |
|   | CTTGCCAAAC TGGGAAAGGT GATTACACCT TTnAATTGGT CCCATTTGCG GTTCnGGTTA | 1260 |
|   | CA  | 1262 |

## (2) INFORMATION FOR SEQ ID NO: 457:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1142 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 457:

|    |   |      |
|----|---|------|
| 20 | CCTGGCTGCT TTATCAGCAT CTACTACTTT AAAACCGAAT ACGGATAAGA GTTCTGATAC | 60   |
|    | TGTTGATTTT CCTGAGGCGA TTCCACCTGT TAGACCAATA ACTTTCGGCA TAATTTCACT | 120  |
| 25 | CTTTCTTTAT TTTTGACATA CTGGACAATA ATGACTATTT CTTGTCGCGA TGATTTTGT  | 180  |
|    | TTCAATTTGA CTTCCACACA CTTTGCATAC CGGCTGCTTA TATACATTAA GATGCAATTG | 240  |
|    | CATCTCACCA GTTTTTCCAT CAGCATGACG ATAATCTGAA ATACTTGAC CGCCATATTT  | 300  |
| 30 | AATACCTTCT TCTAGTACTT CTCTAACATA ATAAAAAACC ATTTCTTGTT GTTGGTGTGT | 360  |
|    | TAAGTCTTTT ACTTTTTTAT CTGGTAAAAC ACCTGCACGA AACACGCTT CACATGCGTA  | 420  |
|    | AATATTTCCA CAACCTGCGA TTACTTTATG ATCCAAAATC ACTTGTTTGA TTGGTTTATT | 480  |
| 35 | CTTATTAGAC TGTTGATGAA TTCGATTTAA ATAATACGTC AATGCTTCAT TTGAAAAAGG | 540  |
|    | TTCAGGCGCT ATTTCTAAAA ATGAAGGATA AGATGCTACA GACGCAACAT TTCTAATTTT | 600  |
|    | TCCAAAACGA CGTATATCTG AATAAATTAA CTTTTTGTCA TTTGACAACT CAAAAATAAC | 660  |
| 40 | ATGCCAATGC TTACGATAAT TAGGTATCAT AATATCTTCA AGTTCATCTA CAATGAAAAA | 720  |
|    | ACCGCCCGCC ATACCTAAAT GACTAATTAA TGTACGTTGT TCTCGTTTAT TATCTAGCTG | 780  |
| 45 | AAAAACGATA TATTTACTTC TTCGTTCTAC ATTTGTAATG GTATAGCCTT CCGATAAAGT | 840  |
|    | TTTAAAAGTA TCTAATTCAA TTCCTTTTAT AATTGTTTCC TTGCCTTGAG CTTTACCTTC | 900  |
|    | GATTACTTTA TCCGAAAATA TAACGTGTTC AATTTTTTGA TTTATAACGT AGGGTTCAAT | 960  |
| 50 | TCCTCTTTTT ACATGTTCTA CTTCTGGTAA TTCGGGCATA CCATTAACCT CACTTTATTT | 1020 |
|    | TGCATCATAC CAGGTTGCAC CATAACTTGA GTCTACTTTT AATGGAACAT CTArTTGCAA | 1080 |

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1142

(2) INFORMATION FOR SEQ ID NO: 458:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1814 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 458:

|    |  |      |
|----|--|------|
| 5  | CCTTTAGTAA ACAATCCTTC TTTAGTTTTA GTACGTTGTT CCAATCCAAA TAATTTGTAT  | 60   |
| 15 | TTCATTGCCT CGCCCCGATTG AGTGCCGCTA AAGTTATCAT CTTTCATGTT AGGCGTGTTG | 120  |
|    | GTAAACATGT GTATATCACT GTTTAAACGG TCTTTATAAG CTTCGGTACC TTGTACATCG  | 180  |
| 20 | TATTGCTTAT AAATATAACC ACCATCAACA GAGCCTTCTG TTTCTCTACC TTCGCTATCA  | 240  |
|    | GCATAAACAG TCGGTTCTAA AAACAACACG TTAGCTTCCT TTTGTTTTCT AACTTCTACA  | 300  |
|    | GGATCTAAAT TTAAATTACC TTTAATAAGT AACATAGCGT CATTTAAATC ACTCATATAG  | 360  |
| 25 | TTAGCAsymy CTGATTGAGC ATTATCATAC AAATCAATTA AAGTGATTAC TTTCTCATAA  | 420  |
|    | TCCCCTTTTT TCTTTTCGTT GTTGCTAAAT TCTGTAATAG GCATACGTTT GAAAGAGTGT  | 480  |
|    | GATTCAAAAC CGTTTTTCAG TGGTGTGAGC TTCAATCCAT TTGTTCTACT GGTAAGATAT  | 540  |
| 30 | CTATAAACAC CGTGTGAAGT GAATAAATCA ACTGTAAACA CTTTCATCTTC GTCAGTCTTG | 600  |
|    | TCTATTGGTT TAGTTCTTAA ATATCTAACG CCTGCGATAC TATTACGTTT AATTGTATTG  | 660  |
|    | TCGTATATGA CAAAAGTACT CATTGCATCA CTCTTGATA AACGCGTTTC ATCATCTTGG   | 720  |
| 35 | TTTCTAATCA TTAATCATA AGCTTTGCCA TAAATTGACA AATCTAATCC TAAAGATCTA   | 780  |
|    | TTGTGTGACT CAACATCATT TAAATCATTG AACGCCTCAA TAACTTCTAA TACATCTTTG  | 840  |
| 40 | TCATCATCTT GATATTGAAT TGGATTACCC AAGAAATAGC CGTTGATAAA ATCGCTAATA  | 900  |
|    | TAAGATGCGT AATCATGCGC TACACGGTTA TCTGCCATGT ACTCTTCTTT GCGTCGTGTT  | 960  |
|    | AACTCAACTA AGTTCTTAGT TTTACCTTCG TAATAATCAC TTAACACTTT CAATCTAGGT  | 1020 |
| 45 | CGTTGGTAAT CCATGTGATG TTCAATGTAT TTAATTACTT CATTAAACGTT TTGTAATAAA | 1080 |
|    | TCCGATTCCG TCCCGTCATA TGTGTAAACA ACATTGGCTT CATCATTAAT TAAGTAATTT  | 1140 |
|    | ATGTTTCCCC GTAGATCTGT ATCTGTTTCA AATTCGTTTA CTTTTAACAT TTGTTCCCTC  | 1200 |
| 50 | CTATAATCCT AGAGATTTTA TTGTGTCAAC TTTCGAACG AGATTTGTGC GTTTCTAAC    | 1260 |
|    | CGGTCTGTAG AATCGTTCCA CTGAATAACG CAACGAATCG ATACAATGAT TGTATGTATC  | 1320 |

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CTCTTCAATA GTCTTGAAAC AACGTTTCATC AACAAATGATT TCAAATTGCA TTAAGAATTG 1440  
 TAACCCTTGT ACAACCGAGC CCTTCCCTTT TTTGGTTGGT AAAATCCTTT TAAGCCCTAG 1500  
 5 ATTCTTAAT TCAGCTATAC TTTTGTGTTG TGCACTATCT GCTGTAATTT CTCTTTTAGC 1560  
 ATAACCAAGT TGCTTTATGA CATTAGCTAT TTCATCATTC AGCATACCTT GTTTAACATA 1620  
 CTCTTCAATG ATGTATAACT TCTTTTCTTT TACATCTATT TTAGAATGTA TAAAAGCACT 1680  
 10 AGGATCATT ACGTAGCCAA AGTCCAATCC AAAATAAGAA GGTAAATGTC TTAACTCATC 1740  
 TTTATTTATT AAACGTTTTT CATACTTAGG GAAAACCAAT TTGTCTAGTG TAGCAAATTC 1800  
 ACCTAACGCA TAAA 1814

(2) INFORMATION FOR SEQ ID NO: 459:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 686 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 459:

AATTnAGATT ATTACCCTCC TTTAAAAATA TTTGTTTCAC AATTTTTTAT TACCTATTTA 60  
 CTGGTTTCAT GTCTTATGGG GCATTTTACT TGTTGGTATT TGAAAATGTG CAAAATTTAA 120  
 30 TCTTATATGT TTCTTGGCTT TTCATGACTA TGCTATTTAT GTTTATGAAT ATGCATTCAA 180  
 TTATAGATAA AAAAGTACAT ATATTCTTAA AGTCTAATAA ATAGTTACAA ATTTAGTTAG 240  
 TTTTCAATTG TTAATTAGGG GTGGTAAACA GTGCTTTGTG AATCTAGACA AATTTATAAA 300  
 35 AATCCTAAAT ATCGAGTTAT TAGATATAAT AATGAATATT TCATGGTCGA TTTAGTAAGT 360  
 ACTTGGATTA CTTATTTTTT CCCTATGATT AATTGGTTTT TGCCCAAAAA ATACGCAAAA 420  
 ATTAGCGAAA ATGAATTTGA AAGGTAAAT ATAGTCGAGC CTGTTAAAAA TAATGTTTTT 480  
 40 TGGCCGGTTG CAGGAAGTTC AGTCTATTTT GGAATTATAT TGAGAAAGTA CGGTAACCTC 540  
 TTTAATGTTT AGTTTGAAAA ACAACTAGCA ATCACTGTAT TTTTATCAT GTTAATAGGG 600  
 45 ATGTTAATTT TTTATTTTTT TCTAAATAAA AAATTAACAT TAAAAATTTT TAATACCAAC 660  
 GTGGGTAATA AGAATAGGAG TTGTAT 686

(2) INFORMATION FOR SEQ ID NO: 460:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1300 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 460:

5 ATCTGCAATT ATGGGCACAC CCAAGCTnAT GCAAGTAACT AAAGGAGAAG TACTTTTAGA 60  
 CGGTGTAAAT ATTTTAGAaT TAGAAGTTGA TGAAAGAGCA AAAGCAGGAT TATTCTTGGC 120  
 AATGCAATAT CCATCAGAAA TTACAGGTGT TACAAATGCT GATTTTCATGC GTTCAGCAAT 180  
 10 CAATGCGAAA CGTGAAGAAG GACAAGAAAT CAACTTAATG CAATTTATTA AGAAATTAGA 240  
 TAAAAACATG GATTTTCTAG ACATAGATAA AGACATGGCA CAACGTTATT TAAATGAAGG 300  
 TTTCTCAGGT GGAGAGAAGA AACGTAACGA AATCTTACAA TTAATGATGT TAGAACCTAA 360  
 15 GTTTGCaATC TTAGATGAAA TCGATTGAGG GTTAGACATC GATGCATTAA AAGTTGTATC 420  
 TAAAGGTATT AACCAAATGC GTGGGGAAAA CTTTGGTGCA TTAATGATTA CACACTATCA 480  
 ACGATTATTA AATTACATTA CTCCTGATAA AGTACATGTA ATGTATGCTG GTAAAGTCGT 540  
 20 TAAATCTGGT GGTCCAGAAT TAGCAAAACG TCTTGAAGAA GAAGGATATG AATGGGTTAA 600  
 AGAAGAGTTC GGTTGAGCTG AATAATCTTA TTAATACAGT ATCCATGAGA TGTTTCATCTA 660  
 25 TATATGATGA AAATGAACAT TTATACGAAA TAGTAAATTT CATCAAGTAG GAGGAAAAAG 720  
 TTATGACAAC TGATATTTTG rACaTTyCTG AAGAACAAC TGTGATTAT TCTAAAGCCC 780  
 ACAATGAACC TTCTTGGATG ACAGAATTAC GTAAAAAAGC TTTGAAATTA ACAGAAACTT 840  
 30 TAGAAATGCC AAAACCTGAT AAAACAAAAT TAAGAAAATG GGATTTTGAT TCTTTTAAAC 900  
 AACACGATGT AAAAGGTGAT GTTTATCAAT CTTTATCACA ATTACCTGAG TCAGTAAGAG 960  
 AAATTATTGA CGTAGATCAT TCTAAAAACT TAGTAATTCA ACATAATAAT ACGATTGCGT 1020  
 35 ACACACAAGT TGATGATAAT GCATCGAAAG ATGGCGTTAT CGTTGAAGGT TTAGCAGACG 1080  
 CTCTTATGAA CCATAGTGAT TTAGTACAAA AGTACTTTAT GAAAGATGCA GTAACAGTAG 1140  
 ATGAACATCG TATCACAGCG CTACACACGG CATTAGTTAA TGGTGGCGTA TTTGTTTATG 1200  
 40 TTCCTAAAAA TGTAGTTGTA GAACATCCAG TACAATACGT TGTGTTGCAC GACGACGAAA 1260  
 ATGCAAGCTT TTATAACCAT GTTATCATCG TTAAGAAGA 1300

## (2) INFORMATION FOR SEQ ID NO: 461:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3135 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

|    |  |      |
|----|--|------|
|    | GACAGCAAAT TCAAGATACA TTAAATAAAG ATATTGTCAT AAAGCATATT CTTGTTCGAG  | 60   |
|    | ATAAATCTAA AAAGAGACCG CTAAATATTA GCCAATATCA TTAACTGAA GATGTTAATG   | 120  |
| 5  | AAATTTTAAA TGATGATTCA TTAGATATTA TCGTTGAAGT CATGGGAGGA ATTGAACCAA  | 180  |
|    | CTGTAGATTG GTTAAGAACA GCACTTAAAA ATAAAAAACA TGTTATTACC GCAAATAAAG  | 240  |
|    | ATTTATTAGC AGTACATCTT AAACCTTTTAG AAGATTTAGC AGAAGAAAAT GGTGTAGCTT | 300  |
| 10 | TAAAGTTTGA AGCGAGTGTA GCAGGTGGTA TTCCGATCGT AAATGCCATA AATAATGGTT  | 360  |
|    | TGAATGCGAA TAATATTTCA AAATTTATGG GAATTTTAAA TGGTACCTCT AATTTTATTT  | 420  |
|    | TATCTAAAAT GACTAAAGAG CAAACGACAT TTGAGGAAGC ACTTGATGAA GCGAAAAGAC  | 480  |
| 15 | TTGGTTTTGC TGAAGCGGAT CCAACTGATG ATGTAGAAGG GGTAGATGCA GCGCGTAAAG  | 540  |
|    | TTGTCATTAC ATCATATTTA TCATTTAACC AAGTCATTAA ATTAACGAC GTTAAACGAA   | 600  |
| 20 | GAGGAATTAG TGGCGTAACT TTAAGTGATA TTAATGTAGC CGATCAACTG GGGTATAAAA  | 660  |
|    | TTAAATTGAT TGGTAAGGGA ATATATGAAA ATGGCAAAGT TAATGCATCG GTAGAACCAA  | 720  |
|    | CGTTAATTGA TAAAAAGCAT CAATTAGCAG CTGTAGAGGA TGAATATAAC GCGATTTATG  | 780  |
| 25 | TTATTGGTGA TGCCGTTGGT GACACGATGT TTTATGGAAA AGGAGCAGGC AGTTTAGCAA  | 840  |
|    | CAGGTAGTGC CGTTGTCAGT GATTTATTGA ATGTAGCATT ATTCTTTGAA TCAGATTTAC  | 900  |
|    | ACACATTGCC ACCACATTTT GAATTAAAGA CAGATAAAAC ACGGGAAATG ATGGATTCAG  | 960  |
| 30 | ATGCAGAAAT TAATATTAAA GAAAAATCCA ATTTCTTTGT AGTAGTGAAT CATGTCAAAG  | 1020 |
|    | GTTCAAITGA AAATTTTGAA AATGAGTTAA AGGCAATATT ACCATTTTAC CGATCATTAA  | 1080 |
|    | GAGTTGCAAA TTACGATAAT CAATCATATG CCGCTGTTAT AGTTGGATTG GAATCATCAC  | 1140 |
| 35 | CGGAAGAATT AATCACTAAG CATGGATACG AATTGACAAA GTATACCCAG TAGAAGGAGT  | 1200 |
|    | TTAATTATAA TGAGAAGATG GCAAGGATTA GTAGAAGAGT TTAAAGCACA TTTACCAGTA  | 1260 |
|    | AATGAAAATA CACCAAAATT AACATTGAAC GAGGGAAATA CACCACTCAT TCATTGTGAA  | 1320 |
| 40 | AATATGTCTA AAATACTAGG CATAGATTTA TATGTGAAGT ATGAAGGTGC CAATCCGACA  | 1380 |
|    | GTTCAATTTAA AGATCGCGGT ATGGTAATGG CTGTGACAAA AGCAAAAGAG CAAGGTAAGA | 1440 |
| 45 | AAATTGTAAT ATGCGCTTCG ACTGGAAATA CATCAGCGTC TGCAGCAGCA TATGCAGCGA  | 1500 |
|    | GAGCAGGTTT AAAAGCTATC GTCGTAATAC CAGAAGGTAA AATTGCATTA GGTAAATTGT  | 1560 |
|    | CGCAAGCAGT AATGTATGGT GCAGAAATCG TTTCTATTGA AGGAACTTT GATGAAGCTT   | 1620 |
| 50 | TAGAAATTGT AAAAGAAATT GCAAAAAGTG GCGAAATCGA GCTTGTAAC TCTGTCAATC   | 1680 |
|    | CATTTAGAAT CGAAGGACAA AAGACAGGCT CATTTGAAAT TGTACAACAA TTAGACGGTG  | 1740 |

|    |  |      |
|----|--|------|
|    | AAGGCTTTAA AGAATATCAT GAAGCTAAAG GATCACAATT GCCGAAAATG TTTGGCTTCC  | 1860 |
|    | AAGCTGAAGG CGCATCACCA ATTGTTCAAA ATAAAGTCAT TAAAAATCCT GAAACGATTG  | 1920 |
| 5  | CAACTGCTAT TCGAATTGGT AATCCTGCTA GTTGGGATAA GGCGACTAAT GCTCTTAAAG  | 1980 |
|    | AATCAAATGG ATTAATAGAT AGTGTTACTG ATGATGAAAT TCTAGAAGCA TATCAGTTAA  | 2040 |
|    | TGACAACTAA AGAAGGTGTC TTTAGTGAAC CAGCGAGTAA TGCTTCTATT GCAGGTTTAA  | 2100 |
| 10 | TTAAATTGCA TAGACAAGGT AAATTACCTC AAGGTAAAAA AGTAGTTGCT ATTTTAACTG  | 2160 |
|    | GTAATGGATT AAAAGATCCT GATACTGCTA TTTCCTACT AGATAATCCG ATAAAGCCAT   | 2220 |
|    | TGCCAAATGA TAAAGATAGC ATTATCGATT ATATTAAAGG AGCTTTATAA CATGTCGAAT  | 2280 |
| 15 | GTTTTGGAGT TAACAATTCC TGCATCAACA GCCAACCTTG GAGTTGGCTT TGATTCTATA  | 2340 |
|    | GGTATGGCTT TAGATAAATT TTTGCATCTG TCTGTAAAGG AAACATCAGG GACAAAATGG  | 2400 |
| 20 | GAATATAITTT TCCATGATGA TGCATCTAAG CAATTGCCTA CTGACGAAAC AAACTTTATT | 2460 |
|    | TATCATGTAG CACAACAAGT TGCTTCTAAA TATAGTGTG ACTTGCCTAA TTTATGTATC   | 2520 |
|    | GAAATGAGAA GTGATATTCC ATTGGCAAGA GGGTTAGGTT CGTCAGCTTC TGCTTTAGTA  | 2580 |
| 25 | GGAGCTATAT ATATCGCAAA TTATTTTGGT GATATCCAAC TGTCTAAACA TGAGGTATTA  | 2640 |
|    | CAATTAGCGA CTGAAATCGA AGGACATCCT GATAATGTTG CGCCGACCAT TTATGGTGGT  | 2700 |
|    | TTAATCGCTG GATATTATAA TGATGTCTCG AAAGAAACGT CaGtTGCACA TATCGACATA  | 2760 |
| 30 | CCAGACGTGG ATGTGATTGT AACGATACCA ACTTATGAAC TAAAAACAGA AGCATCAAGA  | 2820 |
|    | CGTGCTTTAC CACAAAAATT AACACATAGT GAAGCGGTTA AAAGTAGTGC AATTAGTAAT  | 2880 |
|    | ACAATGATTT tGgCATTAGC ACAGCACAAAT TATGAATTAG CAGGTAAACT CATGCAACAA | 2940 |
| 35 | GATGGCTTTC ATGAACCGTA TCGTCAGCAT TTAATTGCTG AATTTGATGA AGTGAAAACA  | 3000 |
|    | ATTGCTAGTC AACATAATGC CTATGCAACT GTAATTAGTG GTGCTGGACC AACTATTTTA  | 3060 |
|    | ATATTTAGTC GTAAAGAAAA TAGTGGGGAA TTGGTTCGCT CTTTAAATAG TCAGGTAGTA  | 3120 |
| 40 | TCATGCCATT CTGAA   | 3135 |

## (2) INFORMATION FOR SEQ ID NO: 462:

- 45 (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1209 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

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## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 462:

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|    |  |      |
|----|--|------|
|    | AGnTCAATAT TTAGATCAAG CCGTTTAAAG TAATTACGAA CAAGTTTATA TCATTCATGG  | 120  |
|    | TAAAGGTACA GGTGCACTTC AAAAAGGTGT ACAACAACAT TTGAAAAAGC ATAAAAGTGT  | 180  |
| 5  | TAGTGACTTT AGAGGTGGTA TGCCAAGCGA AGGTGGATTT GGCGTTACCG TTGCAACACT  | 240  |
|    | AAAATAAAATT ATAATTTGAT AAATTAAATA GCTGCAGTTA AAATAATGTA AAGCAACAAG | 300  |
|    | AATACATTTT AAACATGTTA TTTGAAATAA GCATAAAAAT TGAGCAAATA GAAATACATG  | 360  |
| 10 | AAGCATGTTA TCTGATATAA TTTGAACATC ATAATAATAA TTAAGGAGGA TTGGCATTTA  | 420  |
|    | TGGCAATCGT AAAAGTAACA GATGCAGATT TTGATTCAAA AGTAGAATCT GGTGTACAAC  | 480  |
|    | TAGTAGATTT TTGGGCAACA TGGTGTGGTC CATGTAAAAT GATCGCTCCG GTATTAGAAG  | 540  |
| 15 | AATTAGCAGC TGAATATGAA GGTAAAGCTG ACATTTTAAA ATTAGATGTT GATGAAAATC  | 600  |
|    | CATCAACTGC AGCTAAATAT GAAGTGATGA GTATTCCAAC ATTAATCGTC TTAAAGACG   | 660  |
| 20 | GTCAACCAGT TGATAAAGTT GTTGGTTTCC AACCAAAAGA AAAGTTAGCT GAAGTTTGTAG | 720  |
|    | ATAAACATTT ATAAGTTACA ACCAATGACG ACTGGGGCAT TTCTTTAATG AATTGCTCCA  | 780  |
|    | GTTTTGTGTT GTGTTTTTAA TATAAAAAGT TGAATGATAA GTCATCATAT TGTTTACGAC  | 840  |
| 25 | TTGAGAATGG TGGGATTAAT AAATCTATGA ACGTTAAATG ATAATCTAGC ATGCTGATAG  | 900  |
|    | ATTTGTAGCA GTTGGTTTGA TAAAACCATG TTCAATATTA CATGATGTGC ATGAAAAGTC  | 960  |
|    | ATACTCGAAG ATGTTGATTA TTAAGTAGAA TTAGTGGTGA TAAATTTGAA GCACTTTTGT  | 1020 |
| 30 | AGCATCATTC ATTTTAAAT TAGAAGGGGG GATATTTTGT GAAGACTATA AGCAACGAAT   | 1080 |
|    | TAAAAATAAA TTAAATGTCG TACCTATGGA ACCAGGATGC TATTTAATGA AAGATCGTAA  | 1140 |
|    | TGATCAAGTG ATATATGTTG GCAAAGCTAA AAAGCTAAGA AATCGATTGC GATCATATTT  | 1200 |
| 35 | TCACGGGTG  | 1209 |

## (2) INFORMATION FOR SEQ ID NO: 463:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2410 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 463:

|    |   |     |
|----|---|-----|
|    | AGTTCAACAC GACGAATTTT ACCTGAGTTT GTTTTGGTA AGTCGTCAAC GAATTCAATC  | 60  |
| 50 | TCTCTCGGAT ATTTATATGG TGCAACTTCA TTTTAAACAA ATTGTTGTAG TTCTTTAACT | 120 |
|    | AACGTATCAT CACCCGCAGT ATGGTCCTGT AAAATAACGA ATGCTTTAAC AATATTTTCT | 180 |

|    |             |             |            |            |            |            |      |
|----|-------------|-------------|------------|------------|------------|------------|------|
|    | GCATCTTCAA  | CTTCAAAGG   | CCCAATCGTA | TAGCCTGAAC | TAATAATAAT | GTCATCTCGA | 300  |
|    | CGTCCTTCAA  | ACCAGAAATA  | ACCATCATCA | TCTACATGAG | CTAAGTCACC | AGTGATGTAG | 360  |
| 5  | TATTtACCTG  | TTTGCGCTTT  | CGCCGTACGT | tCTGGCTCTT | tATAATACCC | TTTGAAAAGT | 420  |
|    | GCTGGCAAAT  | CAAGTGGTAC  | TGCAATATTC | CCTTTCGTAT | TAGCAGGTAC | GCTATTCCCC | 480  |
|    | TCATCATCTA  | CTACAGTGAC  | CGAACTACCC | GGAATGCCTT | TACCCATTGA | TCCAATCCTC | 540  |
| 10 | TGTGGTGTAT  | CTTTTAAAAA  | GCCTATAAGC | AAGGTACTTT | CAGTCTGGCC | ATATCCATCT | 600  |
|    | CTTACAGTTA  | AATTAAAGTA  | TTTCTTGAAT | TGTTCAACTA | CTTCTCGATT | TAGTGGCTCA | 660  |
|    | CCTGCAGAAA  | CGGCACTATG  | TAAATGCGTT | AAGTCATAAT | CATTTAAGTT | CTGTAATTTA | 720  |
| 15 | GCCATCATAC  | GATATTCTGT  | CGGTGTACAA | CATAAAACAT | TAATTTGATA | TTTTTGAAGC | 780  |
|    | AATTCTAAGT  | ATGTTTCAGG  | ACTGAACCTT | CCATTAAATA | CAAAAGCAGT | TGCACCTGAA | 840  |
| 20 | CCTAATACAG  | ATAAGAAAGG  | ACTCCATACC | CATTTTTGCC | AACCTGGTGc | TGCTGTTGCC | 900  |
|    | CAAACTAAGT  | CATCTTCATT  | aATACATaAC | CAATGTTTTG | GTGCCATTTG | TaAATGTGcA | 960  |
|    | AATCCCCaTC  | CATGACAATG  | TGTAACGGCT | TTAGGATTGC | CAGTTGTACC | AGATGTATAT | 1020 |
| 25 | GACAGAATCG  | CCATATCATC  | ACGCGTCGTA | TCTGCCATTT | CTAGTTTGTT | ACTTGCCTTT | 1080 |
|    | TCTTTTTTcAG | CTTCAAGTGA  | AATCCATCCA | TCTTTTTGAC | CGGCAATAAC | AAATTTAGTT | 1140 |
|    | AACGCATCAT  | ATTCITTAAT  | TTTTTCAAAT | TCAACTGTGA | ATGGCTCTAG | TGCAATAACT | 1200 |
| 30 | GCATTAATTT  | CACCATGTGT  | GATACGGTAT | TGTAAATCTT | TAGTTCTTAG | CATTTcAGAA | 1260 |
|    | CATGGAATGA  | TTGCAACACC  | TAATTTTAAA | GCAGCAATAT | ATAATTCATA | CGTCGCAATA | 1320 |
|    | GATCGTGGCA  | TCATAATGAG  | TACTTTATCG | CCTTTAGATA | AACCGTGCGA | TGCTAAAACA | 1380 |
| 35 | TTACCTACTT  | TATTAGACTG  | TTCAATGAGC | TGTTGGTAAG | TGACTGATAT | ATCTTCGCTT | 1440 |
|    | TCAGTATTAT  | GATATAAAAT  | TGCCTTTTTA | TCTGGTATGT | GGCTATATTT | TTCGATTTCC | 1500 |
|    | GAAATAATGT  | TATATTTTTTc | AGGCGCGAAT | AGAGCTGACT | TTTGcATAAC | TAACTTCCTT | 1560 |
| 40 | TCATACATCC  | ACTTTTCCTG  | TGATGAACAT | TGTAATTTTA | TAAATGAATT | ATATACATCA | 1620 |
|    | TACGCCTATC  | TTTACAGAAT  | TTTCAATTAA | ATAGGGTTAA | ATACCAAAGT | CCTCGACACT | 1680 |
| 45 | ACACTTTGAC  | ATGACGTAGC  | ATTCAAGGAC | TTTCAAATGA | TTGAGGGTTG | ATATCTCGGG | 1740 |
|    | CTAGACCATA  | TCAGCTAATT  | CAATACGAAT | ATTGTATGAT | AATTCACGAT | TAATTATTTT | 1800 |
|    | TACATCTGCA  | CCTTTcGAAG  | TGCCACGATG | CTTGTGTGTA | TGCTTGTACT | CAGCTGAATT | 1860 |
| 50 | TTGCCAATGA  | TAAAATGCTT  | GCCTATTTTC | CCACAGCGTA | ATAATGATAT | AGTGTCTACC | 1920 |
|    | AGCTGTTCTA  | GGTCTTAAAA  | ACCTTAATGC | TTTAAATCCA | TCAACGTTTT | TTAAATGCTT | 1980 |

ATTTAACACA CATAATGAAT CATTTGATAA ATCATTATC GCTTCTAGCA CATCGTAATA 2100  
 TGCAGTGTCA TTATTTTTTT GTATTGTGAG ACAATCATCC AGTTCTTCTA TTACATAACT 2160  
 5 TCTATATTCA TCATAAATTT TCATAATAAA TGCCTTCATT TCATTTATAT TTTTGGTCAT 2220  
 ATTACTktAT ATCTATTACT AAtkCATTCC CGTATTTATT AATTACAATC ATAGTTTGGC 2280  
 TyCTTTTTTAA AAGATAAGAC TTTGTAAAAA GTATTAATAT TTCATGCAAA TGGGGGACAG 2340  
 10 GAGTCGCCCCA CTATTTTTTGT GTCTTCAATT TCATGATCAT TATTTAACAT TAGTCATGAA 2400  
 AATAGCCGAC 2410

(2) INFORMATION FOR SEQ ID NO: 464:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 590 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - 20 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 464:

25 TTTATTAATT GTAAAAAATT GAGTAAATTA TCTTTACATT CTAAATTAGT CTTAACTACA 60  
 ACTAGTATCC TAATAATTAT AGGAGCTATT ACATTCTTTT TATTAGAACA GTTTAATACT 120  
 ATGCAACATA TGGGACTAGT TGAAAAAATC GGAAATTCTT TTTTCCAATC AGTAACAACA 180  
 30 CGAACAGCGG GTTTTAACAG TATAGATATA GCAAGCATTa rCAAATCTAC CGCATtAaTG 240  
 TTAATGCTAC TTATGTTTAT TGGTGGTGCC CCTCTCAGTG CAGCTGGAGG AATTAAAATA 300  
 ACTACTTTTG CAGTTGCGTT TATTTTGTGA CTAAATTATA kACGTAAAGA AAATAATGTT 360  
 35 TCAGTATTCA ATAAAGAAAT ATCTGACAAA CATATAAAC TATCTATTGT TACCATTAAT 420  
 ATCTCATTTT TATTTATCAG CATCATTACT TTTATATTAT CGATAATTAA TCCGAACATA 480  
 TCATTAATCA AGTTATTATT CGAAGTGGTT TCTGCATTCG GAACAGTAGG GTTAAGTATG 540  
 40 AACCTACCA CAGAAATATCA TGGTATTACT AAAATAATTA TTATATTCGT 590

(2) INFORMATION FOR SEQ ID NO: 465:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 905 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - 50 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 465:

TATTCGATTT GAnTCTTTTA AAATTATGTT TAAAAACATG TCTAATGATT CCGCATCATT 120  
 TTTTGCACCA TCAATAAGCG TTTCAGcAAA CCCCTTAATT GAAGTAATAG GTGTTTTTAA 180  
 5 TTCATGTGAA ACATTTGCTA CAAATTCACG TCTTAGATTT TCAAGTTGTT TCAGATTTGT 240  
 TATATCATGC ATCACaACTA AAATCCCTtTG CAAACTTTTT TGAGACCTAG TTAAAATCGG 300  
 AACGCATGAA ATATCAAAGT ACTTGGCATG GACTTGGTTT ATTGCAACTT CCAATTGTTC 360  
 10 ATAAATAGGT TTTTCAACTT TAAAACCTTC TAAAATTAAT TGCTCAATTT CAGTATTAAC 420  
 ATAGCCGTGA TAGCCTACTT GTTCAATATT ATGCGAGATG TTGAACTGTT CATAATACGC 480  
 TTTATTTGCA ACAACGATTT TTCCATTTTCG ATCTATCATT AAAATAGCAC TTGGAATATT 540  
 15 TTCAATCGTT GTTTTTAAAC GGTGGATTG AATTTTTTGC TCATTATTAA GCTTTTGAAG 600  
 GCGTCGTGCT AAATCATTGG TAGACACAAA AAGCGCTTTA GTTCTACAA CATTACTTTC 660  
 20 AGGTACACGT ATGTGATAAT AACCATTTGC CAACAATTGT GTTGATAAG TAACTTCTTG 720  
 AATGGGACGG ATTAATGTAC GCTTAAAACT ACGGCTTGCA AAATACAGAC AAATGAGTAC 780  
 AACTAAACAT GTCAAAATAA GATATTTCCA CAACGTCCAA TGCATTTCTG TAATATCGTT 840  
 25 ATTGTAACTT TTAATCCATA CATGATAACC GTTAACCTTC TTATtAAAAA TAAAAACGTC 900  
 CCTTT 905

## (2) INFORMATION FOR SEQ ID NO: 466:

- 30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1016 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

35

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 466:

TTTGGTTAGC CCATAAAAGA AAAAAACAAG TAGTCATTTT TAAACAACAT ATCAAGTCTA 60  
 40 CCCAAGAAAT ACGTTTTGAC AAAGCGAAAG TGCTTGAACA CAAAGATGAA ATAGCAAATT 120  
 TTATTTCTTT CGAACCACAA AGTTTTGAAT TTTATTATTT TACAGAATCG GAATTTTCAG 180  
 45 AAGAACAATT AAATGAAGTT TCGCCAATTA GAATTAAATT CAATGTTATA AGACACACAA 240  
 AAGATTTGaT AAAGCATATG CCGAATATAT TTTTGGcTAG ACTTATTTCA GAAGATAATG 300  
 ATAAAAAGAC ATATATGTTT TATAAACGCA AAGTATTAAC CGATAACTTT TTAGATAAAT 360  
 50 ATATGCAGAA ATTTTCACCG GCAACATACA CAATAATATT TGTAATGTC TTAATATGGT 420  
 TATGTATGAT TTTATATTTA AATAATTTTT CGGATGTAAA ATTATTAGAT GTTGGCGGGT 480

55

ATTTTAGTTT TGAACATATA CTTATGAATA TGCTTTCATT ATTTATTTTT GTTAAAATAG 600  
 TCGAAGCAAT TATTGGTTCA TGGCGGATGT TAACTGTATA CTTTATTGCA GGGTTGTTTG 660  
 5 GAAACTTTGT ATCACTATCA TTTAATACGA CTACAATTC AGTTGGGGCT AGTGGTGCTA 720  
 TATTGGTCT GATTGGATCA ATTTTTCGA TGATGTATGT TTCAAAAACA TTAAACAAA 780  
 AAATGTTAGG ACAGTTATTA ATTGCATTAG TGATATTAGT TGGTGTCTCT CTGTTTATGT 840  
 10 CAAATATAAA TATTGTGGCG CATATTGGAG GATTCAATGG TGGTTTATTA ATAACTTTAA 900  
 TTGGCTATTA CTATAAAGTG AATCGtAATA TTTTTCGAt TtActAATTG GTATGctTgt 960  
 tATATTTAwT GCACyTCmAA TTagAtTTTT ACmATTAAAG AAGATAATAw TTATAA 1016  
 15

## (2) INFORMATION FOR SEQ ID NO: 467:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 406 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 467:

AACTTTAAAT TTAGACATCT TTAAACCTC TCTTAAACCA TGCCTATATC TCAAGATGAT 60  
 ATTTCAAATG AACAACTACTA TTGCTTGAGA CCATTAATGA ATGATCATAA ATATTTCTTT 120  
 30 CTATAAAATT AGCTTTCCAA TAACTGTGTT GTTGATAAT ATCATTACACA AGTACACCAT 180  
 TTTCGGAAGT ATGATTATCT TTATCTATAC TTAAACAAT TTGTTTAGTT TTAGCATGCC 240  
 TAAATTGTTG AAGACCCTTA CACGATAAAC GTATAGCGTC TGAATTCTCA TTAAACAATG 300  
 35 CGGCTGGgCA AACAAATGAC ACATTGTACT TCATGTTTGA ActTCGTTAC AATCaTCGTG 360  
 kCatTTTGat AAATAACAAT CCCTCGTAAT kGATTAAGTA TATTAT 406

## (2) INFORMATION FOR SEQ ID NO: 468:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1378 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 468:

AGATAATACA CTTGAAGTTG GAATGGTTTG TGACGGTTAT TTAATGCGAA TTGAAAACCTT 60  
 AACACCATCA AATTTCTTCA ACTCAGCAAG TGAAGATACG ATTACTAAAA TTAAATTAAA 120

AGGTACAGCG TTAAAACTAA GAGAAGCCAT CAATTATGAT GAAATGGTTA TTGTAGATAG 240  
 TATGACGTAG TTCCTAATTA TGCKAAAAGG GATTGATGAA AACTGAAGG GCTTTTCATC 300  
 5 AATCCCTTTT ATTTTAGGGG AATTGAATAG ATAGTTTAA ACTATACGAA TTATTAATAT 360  
 TTGAGATTTA ATTGAAATAA GTTTTAAAAA TTGGAGGAGA TAGATTAAGC GAAGTCATTT 420  
 AAAGGTGAAG TTAAGTGTAT TCACAAAAAn TAGCCACACT CATATGACAT CGGATGAGTG 480  
 10 TGGCTTAAGG ATCTATGGGG GGAGGAAnCC ATAGATGTTT ACTTTGATAG GCCAGATTAA 540  
 ATATCAAAGT ATGCGATTAT TTATAGCTTG ATGCAAAAGT GGTATGCCTA TTAAGGTTA 600  
 CTGCACATAG CTTTTAATAT TCCGTTCAAA GGAAAGGGGC ATACAATTGA ACAATCTGTA 660  
 15 ATAGTACTTT TAACCAGCTA TGCTAAAAGT CTAGTAGGGA GAACAGTTGT CCAATCACAT 720  
 AAGAACCTCT AACTTCGTTA GTACGATTAA GAAAAGCTTT TTAGTTAGTA TGTAATACAA 780  
 20 TTTATTGACG CGCGTGAATC TCTTTTATAA GAGTGTGTAG GGAATGGCGT TGTATAAATT 840  
 GTATTAGAAG AACTTCTAAC GCATCTCTGT GGTAAAAGA GATGAAGGGA ACGACAGTTT 900  
 aATTAAAACT GCATAAGAAC TTCTAGCTTT TCTCTCTCGT TCAAAGAGAA GCAGcTGTTC 960  
 25 GCAGTTTAAT CAAAACCACA TAAAGCTTTT AACTTTACTC TTTGATTTAA AGAGTGATAA 1020  
 ATGTTTACAG TTTAATTAAA ACTGCATAAG AACTTCTAGC TTTTCTCTTT CGTTCAAgAG 1080  
 AAGCAGCTGT TCGCagTTTA ATCAAACCA CATAAAGCTT TTAACTTTAC TCTTTGATTT 1140  
 30 AAAGAGTGAC AAATGTTTAC AGTTTAATTA AACTGCATA AGAACTTCTA GCTTTTCTCT 1200  
 TTCGTTCAAA GAGAAGTTCT AATACCACCA TATCGTGCGA TCGGGAACGG TATATATATT 1260  
 AATAGGAGGG TAATATATAT TTAACGCACG ATATGGGACT ATTAGCCTTC GACTTTGTTA 1320  
 35 TGTTGATGTG TGGCCTAAAA TATTGGAGAT ACCAATATTT TAGGTTGCAT CAACATCA 1378

## (2) INFORMATION FOR SEQ ID NO: 469:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4171 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 469:

TCCCAACCAA TAATCGTGGC AAAAATACGG ATATTGGTAT GGCTTAACAA ATTGCAAATA 60  
 50 TCGTTTAATC ATACATCCCC CCTAATCTAT TGCCCTATCC TATTCaTAAG CATAAAAAATG 120  
 AATAGAGGTT GGATACATAA TTTGTAGATG TAAATTCTTC TTACAATTTA CATTTTAAAA 180

|    |   |      |
|----|---|------|
|    | TTATATTCTA TTCAATTTAA TCTATGGATA CTGTGTCCCC ACACGACAGC AAAAGTTATC | 300  |
|    | ATACTTCTTT ACATCACTAA GTCAATATAA ATGATTTAAT CAGTATTTAC ACTTTATTTG | 360  |
| 5  | CTTAATACTG TCTAATTTTT TTGTAACGTT CTTTCCAAAC TTTGATAAAA TCTGGCGCGA | 420  |
|    | ATGGGCCCTT CTTCTGTTCT ATCCATTGTT GAAGAATGTC CACGTTGCGT CTTAAAATAA | 480  |
|    | TATCAATATC ATGCGGATAA TTCATTTGAT TCATATGTTG CTCATATTCA TCTTCATCTA | 540  |
| 10 | ATAAATGATA CTTTCCGTTT GGATATACTT TAATATCTAA ATCATAGTCT ATATATTTTA | 600  |
|    | ATGCCTCTTC ATCACAAACA AATGGTGATG ACAAATTGCA ATAGTAATAA ATTCCATCTT | 660  |
|    | CTCTAAACAT GCAGATAACA TTaAACCAAT ATTCTGAGTG AAAGTaACA ATTGCCGGTT  | 720  |
| 15 | CACGTGTTAT CCAAGTCTT CCGTCACTTT CAGTCACTAA CGTATGATCA TTTCCACCAA  | 780  |
|    | TGACAACATG ATCAGTACCC TTTAATATTG TTGTTTCAGA CCAAACGCGA TGAATCTTAC | 840  |
|    | CATCATGTTT ATAACCTCTGA ATTTAATGT TTTCCCCTTC TTTAGGTATG GATTCTCTGA | 900  |
| 20 | CCATACTCCA CACCACCTTC TGTTAATTTA ACCATTATAA ATTATAGCAT ATTTCAAGAA | 960  |
|    | TAGTATTATA TAAATACATA TTTTTACGAA ATAAGATTTT ACTACTTAAT AATTAACTC  | 1020 |
|    | GGTAATATTG CTAAGTACTA CAACAGAGAT TTACATGTCC CATTTAAAGT ATATAAAATC | 1080 |
| 25 | ATCACTTTTA TATATCAACA CTTTAACTTT TTGACATTGT TATTCTATGA GATTTAAAGA | 1140 |
|    | TATCATTTAT ACTTTTTAAA ATTAATGTCA CTATGTTTTT CGATAATATT ACCAATCATC | 1200 |
| 30 | GAATGTTACC CATTTATAAA TTGATAAATs TTTGACATAG GTACAGGGAA TGTATATTGA | 1260 |
|    | TCTCGATCAC TTAAATCAAA CCAAATCATG TCATCTGGTA ATGTTTCAAT GTTAATTGCT | 1320 |
|    | CCTGAAACGG CGTATACTTT AATCTTCCAT GTTAAATGAG TAAATTGATG CTTCAACTCA | 1380 |
| 35 | AAAATAGGTG TTTCTACTGG TTGAATGTCA TGACCGATTT TTTCACTCAT TTTACGTCTA | 1440 |
|    | GCATGCTCAC TTTCAAACAT AGGAAATTGC CACATACCAT GCAATAATTT TTCGCTACGC | 1500 |
|    | TTTTGCAACA GATATTGACC TTGATTATTT CTAATTAAAA AGACGGATTG CTCAATTACT | 1560 |
| 40 | TTTTTACTTA CATTTTTAGA TTTAACAGGT AACTTTTCAA ATGTACCTTT ATCAAATGCC | 1620 |
|    | TCACAGTTTT CTGAACTGG ACAAATAAG CATAATGGAT TTTTGGTGT ACAAATTAAC    | 1680 |
|    | GCCCCTAATT CCATCATAGC TTGATTAAAC GTTCCAGCTT CTGTAGTAAC ATACGGTAAT | 1740 |
| 45 | AATCTTGTT CGTACGATTT CCTCGTCGAT TGTAATTTAA TATCTCGATA GTCATCATTC  | 1800 |
|    | AATCTAGACC ATACTCGAAA AACATTTCCG TCTACAGTTG CTAGTGGTAC ATTATATGCA | 1860 |
| 50 | ATGCTCATTa CTGCAGCTTG TGTGTATGGG CCAACACCTT TTAACGCTTT AAATTGATCA | 1920 |
|    | GGATCTTTGG GAACTAAGCC TTCATATTTA TCATGAACTT CTTAATCGC CGTATGAAAA  | 1980 |

|    |             |            |             |            |            |            |      |
|----|-------------|------------|-------------|------------|------------|------------|------|
|    | GCTTGaCTCA  | AAACTTCCAC | AGTTGGAAAT  | CGTTCAACAA | AACGATGATA | ATAGTCAATA | 2100 |
|    | ACTGTTTTAA  | CTTGTGTCTG | TTGTAACATG  | ACCTCACTTA | ACCAAATATA | GTACGGATTG | 2160 |
| 5  | GTCGTTTGTC  | GCCATGGCAT | TTCTCTTTGA  | TTTTCATCAA | ACCAGTGTAT | CAAATTTTCT | 2220 |
|    | TTAAAACTAG  | ACTGCTGATA | CATTTATAAA  | ACCCTTTCCT | CACCAAAATT | AATTGTCTTT | 2280 |
|    | ACTCATAATG  | TTTTTATTGT | ACATTAAAAT  | CATGGTTAGT | ATGTAAGTTA | ATTTAGTTAT | 2340 |
| 10 | TTGCGAAATT  | GGATTATAAT | AGTATATATA  | ATATTATGAA | ATGAGTGAAC | TGATATGGAC | 2400 |
|    | ACTGCAACAC  | ATATCGCAAT | TGGGGTGGGC  | CTTACAGCAC | TTGCAACTCA | AGATCCAGCA | 2460 |
|    | ATGGCTTCTA  | CGTTTGGTGC | AACAGCTACA  | ACCCTTATCG | TTGGTTCATT | AATTCCTGAT | 2520 |
| 15 | GGGGATACTG  | TTCTTAAATT | AAAGGACAAT  | GCAACATATA | TTTCGCATCA | TAGAGGTATC | 2580 |
|    | ACGCATTCCA  | TCCCTTTCAC | AATACTATGG  | CCAATTTTAA | TTACATTTT  | AATATTCACG | 2640 |
| 20 | TTCTTTAGTG  | GAACCAACCC | ATTTTCATGTA | TGGATGTGGG | CTCAGCTCGC | AGTATTTTTA | 2700 |
|    | CATGTCTTTG  | TAGATATATT | CAATTCTTAT  | GGTACACAAG | CGCTTAGACC | TATCACAAAC | 2760 |
|    | AAATGGATTTC | AATTAAGTGT | GATTAACACA  | TTTGACCCTA | TTATTTTCAC | AGTTCTTTGT | 2820 |
| 25 | ATTGGTATTG  | TATTATGGGT | TATAGGCTTG  | CATCCATTTG | CAGTCTTCTT | TCCTATAATC | 2880 |
|    | GCTTTACTAA  | TCATTTATTA | CATGATTCGT  | TTTAAATGA  | GAGCCGTAAT | TAAGCAACAA | 2940 |
|    | GCTTTAAAG   | CAATTCAACA | AGAGCATCAC  | CCTGTTAAAG | TATTTGTTGC | GCCAACAATA | 3000 |
| 30 | AAATTTATGG  | AATGGCGTGT | CGCGATACAA  | ACTGATGCAC | ATGACTATGT | TGGAAAAGCA | 3060 |
|    | TATGGTAGGA  | ATGTGGTGTT | TAGTGATAAA  | GTGGAACGTC | AAACATTATC | AACAGACTCC | 3120 |
|    | ATTTTATGGA  | AAGTCAAAGG | TAATAAAGAT  | ATACGTACTT | TTTTAACTT  | TTCATCAATC | 3180 |
| 35 | TATCGTTGGC  | AAACAACAAC | GTTAGCAGAT  | GGTTCTACTG | AAATTCGTTT | GATTGATTTG | 3240 |
|    | CGTTATTTAA  | AAAATGATCA | TTATTCATTT  | GTGGCAATTG | CACATGTAAC | AAACGATAAT | 3300 |
|    | GTCATAGACC  | ACTCTTATAT | TGGCTGGGTA  | TTTACAGAAG | ATAAGTTACA | ACGTAAACTG | 3360 |
| 40 | TATGCTAAAT  | AATTTCAAGT | TATTATTCAC  | TAAAGTTAAT | CTATAAAAAA | TGAACAACCG | 3420 |
|    | GGCAGAATGA  | AAATCAAAAC | GATTTTACT   | CTGTCCGGTT | TTTTAATGTA | AAACTATGAA | 3480 |
| 45 | TGCTTTTACA  | AAATCTAAAA | TTTATATTGT  | TGCTAACAAA | CTACCTTTAA | TGACTCGAAA | 3540 |
|    | TATCAAAATC  | AGTATAGGAA | AACAATATCT  | AGATGATATT | CTAATTGTTT | CTGATTCTCA | 3600 |
|    | CAGATTAATT  | TACACAACAG | GTCAGCTAAA  | CATCATGAAG | AAGTATCCGC | CTCGTCTGTA | 3660 |
| 50 | CTATCATTTG  | AAACATCCTG | TTGATTATCa  | GTTTGTGTCA | CTTTAGATGT | TTTATTaTAA | 3720 |
|    | ATTGCGTGTG  | TCGTATACCT | TGCTAATACG  | AAATTTACTG | CAGCTATTAA | ACATAAGAAT | 3780 |

|    |  |      |
|----|--|------|
|    | TGTGCTATAC CATTAAACAAT GTAATACATT GGATTTAGCA TTAGGATGTG ATTGATAAAT | 3900 |
|    | ACATGATTTG GATTTGGTAT GAAAATAATT GGTAACAATA AGAAACACAA TACACAAACC  | 3960 |
| 5  | CCATAAAATA TGATATTTAT TTTTTCAGwT AACAGTCGAA TAAGACCAAA AGTAACGGAT  | 4020 |
|    | ATTAATCCTA CAAAAATAGT TGCCATCACA ATAAATAGA ATAGCGCTAT ATATGATGTT   | 4080 |
|    | TCGAAGTTTA CTGGTTTAAAC CAATGCACTA ATCATCGTCA AAATGACTAG CATAATAAAA | 4140 |
| 10 | CTTAAATAG ACATAATAAC TACTGGCGTC G                                  | 4171 |

(2) INFORMATION FOR SEQ ID NO: 470:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9821 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 470:

|    |  |      |
|----|--|------|
|    | TGGTTGAAGT AGCAGTTAAT TCAAAATCTG CAACAGTTTC AGCAGAATaG GGGCTTTCAA  | 60   |
| 25 | AATAAtCAAA GGAGAATAAT TTATGACTAA AACTTTAAAG GTTTATAAAG GAGACGACGT  | 120  |
|    | CGTAGCTTCT GAACAAGGTG AAGGCAAAGT GTCAGTAACT TTATCTAATT TAGAAGCGGA  | 180  |
|    | TACAACTTAT CCAAAGGTA CTTACCAAGT GGCATGGGAA GAAAATGGTA AAGAATCTAG   | 240  |
| 30 | TAAAGTTGAT GTACCTCAAT TCAAAACCAA TCCAATTCTA GTCTCAGGCG TATCATTTAC  | 300  |
|    | ACCAGAAACT AAATCAATTA TGGTAAATAC CGATGACAAT GTTGAGCCAA ACATTGCACC  | 360  |
|    | AAGCACAGCA ACGAATAAAA TATTGAAATA TACAAGTGAA CATCCAGAAT TTGTTACTGT  | 420  |
| 35 | AGATGAAAAT ACAGGAGCAA TTCACGGTGT AGCTGAAGGT ACTTCAGTAA TCACTGCTAC  | 480  |
|    | GTCTACTGAT GGAAGCGATA AGTCAGGACA AATTTTCAGTG ACAGTAACAA ACGGATAGGG | 540  |
|    | ATTTAAGGCG CAGTATATCT GCGTCTTTTT TATTTGAATA AAAGGAGCTA ATACAATGAT  | 600  |
| 40 | TAAATTTGAA ATTAAAGATC GTAAAACAGG AAAACAGAG AGCTATACAA AAGAAGATGT   | 660  |
|    | AACAATGGGC GAACAGAAAA ATGCTATGAG TATTTAGAAT TAGTAAATCA AGAGAATAAA  | 720  |
| 45 | AAAGAAGCAC CTAACGCAAC AAAAATGAGA CAAAAAGAGC GACAGTTATT AGTAGATTTA  | 780  |
|    | TTTAAAGATG AAGGATTGAC TGAAGAAGAT GTTCTGAACA AGATGAGTAC TAAAACCTAT  | 840  |
|    | ACAAAAGCCT TACAAGATAT ATTTGAGAA ATCAATGGTG AAGATGAAGA AGATTCAGAA   | 900  |
| 50 | ACTGAACCAG AAGAGATGGG AAAGACAGAA GAACAACTC AATAAAAGAC ATTTTATCGA   | 960  |
|    | ACATTAAGAA AATACAACGT TTCTGTATGG AGCAGTATGG GTGGACATTA ACTGAAGTCA  | 1020 |

|    |            |             |            |            |            |            |      |
|----|------------|-------------|------------|------------|------------|------------|------|
|    | AAGAAAAACA | AAGTGAACAA  | AAAGTCATTA | CAGGTACGGA | TTTAAGAAAA | CTTTTGGAA  | 1140 |
|    | GCTAGAAAGG | AGGTTAATAT  | GAATGAAAAA | GTAGAAGGCA | TGACCTTGGA | GCTGAAATTA | 1200 |
| 5  | GACCATTTAG | GTGTCCAAGA  | AGGCATGAAA | GGTTTAAAGC | GACAATTAGG | TGTTGTTAAT | 1260 |
|    | AGTGAAATGA | AAGCTAATCT  | GTCAGCATTT | GATAAGTCTG | AAAAATCAAT | GGAAAAATAT | 1320 |
|    | CAGGCGAGAA | TTAAGGGGTT  | AAATGATAGG | CTTAAAGTTC | AAAAAAAGAT | GTATTCTCAA | 1380 |
| 10 | GTAGAAGATG | AGCTTAAACA  | AGTTAACGCT | AATTACCAAA | AAGCTAAATC | CAGTGTAATA | 1440 |
|    | GATGTTGAGA | AAGCATATTT  | AAAGTTAGTA | GAAGCCAATA | AAAAAGAAAA | ATTAGCTCTT | 1500 |
|    | GATAAATCTA | AAGAAGCCTT  | AAAATCATCG | AATACAGAAC | TTAAAAAGC  | TGAAAAATCA | 1560 |
| 15 | TATAAACGTA | CAAATCAACG  | TAAACAAGAT | GCGTATCAAA | AACTTAAACA | GTTGAGAGAT | 1620 |
|    | GCAGAACAAA | AGCTTaaGAA  | TAGTAACCAA | GCTACTACTG | CACAACTAAA | AAGAGCAAGT | 1680 |
| 20 | GACGCrtACA | GAAGCAGTCC  | GCTAAGCATA | AAGCACTTGT | TGAACAATAT | AAACAAGAAG | 1740 |
|    | GCAATCAAGT | TCAAAAACCTA | AAAGTGCAAA | ATGACAATCT | TTCAAAATCA | AATGATAAAA | 1800 |
|    | TTGAAAGTTC | TTACGCTAAA  | ACTAATACTA | AATTAAAGCA | AACAGAAAAA | GAATTTAATG | 1860 |
| 25 | ATTTAAACAA | TACTATTAAG  | AATCATAGCG | CTAATGTCGC | AAAAGCTGAA | ACAGCTGTTA | 1920 |
|    | ATAAGAAAAA | AGCTGCTTTA  | AATAATTTGG | AGCGTTCAAT | AGATAAAGCT | TCATCCGAAA | 1980 |
|    | TGAAGACTTT | TAACAAAGAA  | CAAATGATAG | CTCAAAGTCA | TTTCGGTAAA | CTTGCAAGTC | 2040 |
| 30 | AAGCGGATGT | CATGTCAAAG  | AAATTTAGTT | CTATTGGAGA | CAAAATGACT | TCCCTGGGAC | 2100 |
|    | GTACAATGAC | GATGGGCGTA  | TCTACACCGA | TTACTTTAGG | TTTAGGTGCA | GCATTAAAAA | 2160 |
|    | CGAGTGCAGA | CTTTGAAGGG  | CAAATGTCTC | GAGTTGGAGC | GATTGCACAA | GCAAGCAGTA | 2220 |
| 35 | AAGACTTAAA | AAGCATGTCT  | AATCAAGCGG | TTGACTTAGG | AGCTAAAACA | AGTAAAAGTG | 2280 |
|    | CTAACGaAGT | TGCTAAAGGT  | ATGGAAGAAT | TGGCAGCTTT | AGGCTTTAAT | GCCAAACAAA | 2340 |
| 40 | CAATGGAGGC | TATGCCAGGT  | GTTATCAGCG | CAgcAGaAGC | AAGTGGTGCA | GAAATGGCTA | 2400 |
|    | CAACTGCAAC | TGTAATGGCT  | TCAGCGATTA | ACTCTTTCGG | TTTAAAAGCA | TCTGATGCAA | 2460 |
|    | ATCATGTTGC | TGATTTACTT  | GCGAGATCAG | CAAATGATAG | TGCTGCAGAT | ATTCAATATA | 2520 |
| 45 | TGGGAGATGC | ATTAAAATAT  | GCAGGTACTC | CAGCAAAAGC | ATTAGGAGTT | TCAATAGAGG | 2580 |
|    | ACACTTCTGC | AGCAATTGAA  | GTTTTATCTA | ACTCAGGTTT | AGAGGGGTCT | CAAGCAGGTA | 2640 |
|    | CTGCATTAAG | AGCTTCGTTT  | ATTAGGCTAG | CTAATCCAAG | TAAAAGTACA | GCTAAGGAAA | 2700 |
| 50 | TGAAAAAATT | AGGTATTCAT  | TTGTCTGATG | CTAAAGGTGA | GTTTGTGGGA | ATGGGCGAAT | 2760 |
|    | TGATTAGACA | GTTCCAAGAT  | AACATGAAAG | GCATGACGAG | AGAACAAAAA | TTAGCAACAG | 2820 |

|    |  |      |
|----|--|------|
|    | CAGATAAAAT TAATAGCTAT AGCAAATCAT TGAAGAACTC TAATGGTGAA AGTAAAAAAG  | 2940 |
|    | CAGCTGATTT GATGAAAGAT AACCTCAAAG GTGCTCTGGA ACAATTAGGT GGCCTTTTTG  | 3000 |
| 5  | AATCGTTAGC AATTGAAGTT GGTAAAGATT TAACGCCTAT GATTAGAGCA GGTGCGGAAG  | 3060 |
|    | GATTAACAAA ATTAGTTGAT GGATTTACAC ATCTTCCTGG TTGGGTTAGA AAGGCTTCGG  | 3120 |
| 10 | TAGGCTTAGC AATTTTTGGT GCATCTATTG GTCCTGCTGT TCTTGCTGGT GGCTTATTAA  | 3180 |
|    | TACGTGCAGT TGGGAGCGCG GCTAAAGGCT ATGCATCATT AAATAGACGC ATTGCTGAAA  | 3240 |
|    | ATACAATTCT TTCTAATACC AATTCAAAAG CAATGAAATC TTTAGGTCTT CAAACATTAT  | 3300 |
| 15 | TTCTTGGTTC TACAACAGGA AAAACGTCAA AAGGCTTTAA AGGATTAGCC GGAGCTATGT  | 3360 |
|    | TGTTTAATTT AAAACCTATA AATGTTTTGA AAAATTCTGC AAAGCTAGCA ATTTTACCGT  | 3420 |
|    | TCAAACTTTT GAAAAACGGT TTAGGATTAG CCGCAAAATC CTTATTTGCA GTAAGTGGAG  | 3480 |
| 20 | GCGCAAGATT TGCTGGTGTA GCCTTAAAGT TTTTAACAGG ACCTATAGGT GCTACAATAA  | 3540 |
|    | CTGCTATTAC AATTGCATAT AAAGTTTTTA AAACCGCATA TGATCGTCTG GAATGGTTCA  | 3600 |
|    | GAAACGGTAT TAACGGTTTA GGAGAACTA TAAAGTTTTT TGGTGGCAAA ATTATTGGCG   | 3660 |
| 25 | GTGCTGTTAG GAAGCTAGGA GAGTTTAAAA ATTATCTTGG AAGTATAGGC AAAAGCTTCA  | 3720 |
|    | AAGAAAAGTT TTCAAAGGAT ATGAAAGATG GTTATAAATC TTTGAGTGAC GATGACCTTC  | 3780 |
|    | TGAAAGTAGG AGTCAACAAG TTTAAAGGAT TTATGCAAAC CATGGGCACA GCTTCTAAAA  | 3840 |
| 30 | AAGCATCTGA TACTGTAAAA GTGTTGGGGA AAGGTGTTTC AAAAGAAACA GAAAAAGCTT  | 3900 |
|    | TAGAAAAATA CGTACACTAT TCTGAAGAGA ACAACAGAAT CATGGAAAAA GTACGTTTAA  | 3960 |
|    | ACTCGGGTCA AATAACAGAA GACAAAGCAA AAAAAGTTTT GAAAATTGAA GCGGATTTAT  | 4020 |
| 35 | CTAATAACCT TATAGCTGAA ATAGAAAAAA GAAATAAAAA GGAAGTCGAA AAACTCAAG   | 4080 |
|    | AACTTATTGA TAAGTATAGT GCATTTCGATG AACAAGAAAA GCAAAACATT TTAAGTAGAA | 4140 |
|    | CTAAAGAAAA AAATGACTTG CGAATTAAAA AAGAGCAAGA ACTCAATCAG AAAATCAAAG  | 4200 |
| 40 | AATTGAAAGA AAAAGCTTTA AGTGATGGTC AGATTTTCAGA AAATGAAAGA AAAGAAATTG | 4260 |
|    | AAAAGCTTGA AAATCAAAGA CGTGACATCA CTGTTAAAGA ATTGAGTAAG ACTGAAAAAG  | 4320 |
| 45 | AGCAAGAGCG TATTTTAGTA AGAATGCAAA GAAACAGAAA TGCTTATTCA ATAGACGAAG  | 4380 |
|    | CGAGCAAAGC AATTAAAGAA GCAGAAAAAG CAAGAAAAGC AAGAAAAAAA GAAGTGGATA  | 4440 |
|    | AGCAGTATGA AGATGATGTC ATTGCTATAA AAAATAACGT CAACCTTTCT AAGTCTGAAA  | 4500 |
| 50 | AAGATAAATT GTTAGCTATT GCTGATCAAA GACATAAGGA TGAAGTAAGA AAGGCAAAT   | 4560 |
|    | CTAAAAAAGA TGCTGTAGTA GACGTTGTTA AAAAGCAAAA TAAAGATATT GATAAAGAAA  | 4620 |

|    |            |              |            |             |             |             |      |
|----|------------|--------------|------------|-------------|-------------|-------------|------|
|    | GTTGGTGGTC | TAAC TT TAGA | GAAGACCAAA | AGAAGAAAAG  | TGATAAATAC  | GCTAAAGAAC  | 4740 |
|    | AAGAAGAAAC | AGCTCGTAGA   | AACAGAGAAA | ATATAAAGAA  | ATGGTTTGGA  | AATGCTTGGG  | 4800 |
| 5  | ACGGCGTAAA | AACTAAAACT   | GGTGAAGCCT | TTAGTAAAAAT | GGGCAGAAAT  | GCTAATCATT  | 4860 |
|    | TTGGCGGCGA | AATGAAAAAA   | ATGTGGAGTG | GAATCAAAGG  | AATTCCAAGC  | AAATTAAGTT  | 4920 |
|    | CAAGTTGGAG | CTCAGCCAAA   | AGTTCTGTAG | GATATCACAC  | TAAGGCTATA  | GCTAATAGTA  | 4980 |
| 10 | CTGGTAAATG | GTTTGAAAAA   | GCTTGGCAAT | CTGTTAAATC  | GACTACAGGA  | AGTATTTACA  | 5040 |
|    | ATCAAATAA  | GCAAAAGTAT   | TCAGATGCCT | CAGATAAAGC  | TTGGGCGCAT  | TCAAAATCTA  | 5100 |
|    | TTTGGAGAGG | CACATCAAAA   | TGGTTTAGCA | ACGCATATAA  | AAGTGCAAAG  | GGTTGGCTAA  | 5160 |
| 15 | TAGATATGGC | TAATAAATCG   | CGCTCGAAAT | GGGATAATAT  | TTCTAGTACA  | GCATGGTCGA  | 5220 |
|    | ATGCAAAATC | CGTTTGAAAA   | GGAACATCGA | AATGGTTTAG  | TAATCATAAC  | AAATCTTTAA  | 5280 |
| 20 | AAGGTTGGAC | TGGGGATATG   | TATTCAAGAG | CCCACGATCG  | TTTTGATGCA  | ATTTCAAGTT  | 5340 |
|    | CGGCATGGTC | TAACGCTAAA   | TCAGTATTTA | ATGGTTTTAG  | AAAATGGCTA  | TCAAAAACAT  | 5400 |
|    | ATGATTGGAT | TAGAGATATT   | GGTAAAGACA | TGGGAAGAGC  | TGCGGCTGAT  | TTAGGTAAAA  | 5460 |
| 25 | ATGTTGCTAA | TAAAGCTATT   | GGCGGTTTGA | ATAGCATGAT  | TGGCGGTATT  | AATAAAATAT  | 5520 |
|    | CTAAAGCCAT | TACTGATAAA   | AATCTCATCA | AGCCAATACC  | TACATTGTCT  | ACTGGTACTT  | 5580 |
|    | TAGCAGGAAA | GGGTGTAGCT   | ACCGATAATT | CAGGAGCATT  | AACGCAACCG  | ACATTTGCTG  | 5640 |
| 30 | TATTAAATGA | TAGAGGTTCT   | GGAAACGCCC | CAGGTGGTGG  | AGTTCAAGAA  | ATAATTCACA  | 5700 |
|    | GGGCTGACGG | AACATTCCAT   | GCACCCCAAG | GACGAGATGT  | GGTTGTTCCA  | CTAGGAGTTG  | 5760 |
|    | GAGATAGTGT | AATAAATGCC   | AATGACACTC | TGAAGTTACA  | GCGGATGGGT  | GTTTTGCCAA  | 5820 |
| 35 | AATTCCATGG | TGGTACGAAA   | AAGAAAAAAT | GGATGGAACA  | AGTTACTGAA  | AATCTTG GTA | 5880 |
|    | AAAAAGCAGG | GGA CTTCGGT  | TCTAAAGCTA | AAAACACAGC  | TCATAATATC  | AAAAAAGGTG  | 5940 |
|    | CAGAAGAAAT | GGTTGAAGCG   | GCAGGCGATA | AAATCAAAGA  | TGGTGCATCT  | TGGTTAGGCG  | 6000 |
| 40 | ATAAAATCGG | CGATGTGTGG   | GATTATGTAC | AACATCCAGG  | GAAACTAGTA  | AATAAAGTAA  | 6060 |
|    | TGTCAGGTTT | AAATATTAAT   | TTTGGAGGCG | GACTAACGCT  | ACAGTAAAAA  | TTGCTAAAGG  | 6120 |
| 45 | CGCGTACTCA | TTGCTCAAAA   | AGAAATTAGT | AGACAAAGTA  | AAATCGTGGT  | TTGAAGATTT  | 6180 |
|    | TGGTGGCGGA | GGCGATGGAA   | GCTATCTATT | TGACCATCCA  | ATTTGGCAAA  | GGTTTGGGAG  | 6240 |
|    | TTACACAGGT | GGA CTTAACT  | TTAATGGCGG | TCGTCACTAT  | GGTATCGACT  | TTGGTATGCC  | 6300 |
| 50 | TACAGGAACG | AACATTTATG   | CTGTTAAAGG | CGGTATAGCT  | GATAAAGTAT  | GGA CTGATTA | 6360 |
|    | CGGTGGCGGT | AATTCTATAC   | AAATTAAGAC | CGGTGCTAAC  | GAATGGA ACT | GGTATATGCA  | 6420 |

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|----|--|------|
|    | ATCAGGTGCT ACAGGTAATT TCGTTAGAGG AGCACACTTA CATTTCCAAT TGATGCAAGG  | 6540 |
|    | GTCGCATCCA GGGAAATGATA CAGCTAAAGA TCCAGAAAAA TGGTTGAAGT CACTTAAAGG | 6600 |
| 5  | TAGTGGCGTT CGAAGTGGTT CAGGTGTTAA TAAGGCTGCA TCTGCTTGGG CAGGCGATAT  | 6660 |
|    | ACGTCGTGCA GCAAAACGAA TGGGTGTTAA TGTTACTTCG GCTGACGTAG GAAATATCAT  | 6720 |
|    | TAGCTTGATT CAACACGAAT CAGGAGGAAA TGCAGGTATA ACTCAATCTA GTTCGCTTAG  | 6780 |
| 10 | AGACATCAAC GTTTTACAGG GCAATCCAGC AAAAGGATTG CTTCAATATA TCCCACAAAC  | 6840 |
|    | ATTTAGACAT TATGCTGTTA GAGGTCACAA CAATATATAT AGTGGTTACG ATCAGTTATT  | 6900 |
|    | AGCGTTCTTT AACACAGAT ATTGGCGCTC ACAGTTTAA CCAAGAGGTG GTTGGTCTCC    | 6960 |
| 15 | AAGTGGTCCA AGAAGATATG CGAATGGTGG TTTGATTACA AAGCATCAAC TTGCTGAAGT  | 7020 |
|    | GGGTGAAGGA GATAAACAGG AGATGGTTAT CCCTTTAACT AGACGTAAAC GAGCAATTCA  | 7080 |
| 20 | ATTAAGTAA CAGGTTATGC GCATCATCGG TATGGATGGC AAGCCAAATA ACATCACTGT   | 7140 |
|    | AAATAATGAT ACTTCTACAG TTGAAAAATT GTTGAAACAA ATTGTTATGT TAAGTGATAA  | 7200 |
|    | AGGAAATAAA TTAACAGATG CGTTGATTCA AACTGTTTCT TCTCAGGATA ATAACCTTAGG | 7260 |
| 25 | TTCTAATGAT GCAATTAGAG GTTTAGAAAA AATATTGTCA AAACAAAGTG GGCATAGAGC  | 7320 |
|    | AAATGCAAT AATTATATGG GAGGTTTGAC TAATTAATGC AATCTTTTGT AAAAAATCATA  | 7380 |
|    | GATGGTTACA AGGAAGAAGT AATAACAGAT TTTAATCAGC TTATATTTT AGATGCAAGG   | 7440 |
| 30 | GCTGAAAGTC CAAACACCAA TGATAACAGT GTAACATTA ACGGAGTAGA TGGTATTTTA   | 7500 |
|    | CCGGGCGCAA TTAGTTTTGC GCCTTTTTCA TTAGTATTAA GGTGTTGCTA TGATGGTATA  | 7560 |
|    | GATGTTATAG ATTTAAATTT ATTTGAGCAT TGGTTTAGAT CTGTGTTTAA TCGCAGACAT  | 7620 |
| 35 | CCTTATTATG TTATTACTTC TCAAATGCCT GGTGTTAAAT ATGCAGTGAA TACAGCTAAT  | 7680 |
|    | GTTACATCTA ATTTAAAAGA TGGTTCTTCA ACTGAAATTG AAGTAAGTTT AAATGTTTAT  | 7740 |
| 40 | AAAGGGTATT CTGAATCAGT TAATTGGACC GATAGCGAGT TCTTATTCGA CTCTAATTGG  | 7800 |
|    | ATGTTTGAAA ATGGAATTCC TCTTGATTTC ACACCTAAAT ATACTCATAC ATCAAATCAA  | 7860 |
|    | TTTACTATTT GGAACGGTTC TACTGATACG ATAAATCCAC GATTCAAGCA CGATTTGAAA  | 7920 |
| 45 | ATATTAATTA ATTTAAATGC GAGTGGAGGA TTTGAACTGG TTAATTATAC AACAGGTGAT  | 7980 |
|    | ATTTTTAAGT ACAACAAAAG TATAGATAAA AACACTGATT TTGTTTTAGA TGGTGTGTAT  | 8040 |
|    | GCATATCGAG ATATAACAG AGTGGGAATT GATACAAATA GAGGCATTAT AACATTAGCG   | 8100 |
| 50 | CCAGGTAAAA ATGAATTTAA GATTaAGGA GACGTCAGTG ATATTAAAAC TACATTTAAG   | 8160 |
|    | CGTGATTGTA GGTGATTTAA TGGATTATCA TGATCATTTA TCAGTAATGG             | 8220 |

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|    | ATTATGAACT GAATGAAGCT AGGTACATCA CCTTTACAGT TTATAGAACT ACTCATAATA  | 8340 |
|    | GTTTTGTTTT TGATTTATTG ATTTGTGAAA ACTTCATAAT TTATCATGGT GAAAAATACA  | 8400 |
| 5  | CAATTAAGCA GACAGCGCCA AAGGTTGAAG GTGATAAAGT TTTTATTGAA GTTACGGCAT  | 8460 |
|    | ATCACATAAT GTATGAATTT CAAAATCACT CAGTGGAAATC AAATAAGCTT GATGACGACA | 8520 |
|    | GTAGCGAAAC TGGTAAAACG CCAGAATACT CTTTAGATGA GTACTTAAGA TATGGATTG   | 8580 |
| 10 | CAAAATCAAAA AACGTCAGTC AAGATGACCT ATAAAATAAT TGGAGATTTT AAAAGAAAAA | 8640 |
|    | TACCAATTGA TGAATTAGGT AATAAAAAATG GCTTAGAATA TTGTAAAGAA GCAGTAGATT | 8700 |
|    | TGTTTGGTTG TATTATTTAT CCAAATGATA CGGAGATATG TTTTATTCTT CCTGAAACAT  | 8760 |
| 15 | TCTATCAAAG AAGCGAAAAA GTAATAAGGT ATCAATATAA TACTGATACT GTGTCTGCTA  | 8820 |
|    | CTGTCAGTAC GTTGAATTA AGAACAGCTA TAAAAGTTTT TGGGAAAAAG TACACAGCCG   | 8880 |
| 20 | AGGAAAAGAA AAATTATAAT CCTATTAGAA CAACTGACAT TAAATATTCA AATGGTTTTA  | 8940 |
|    | TAAAAGAAGG TACTTATCGT ACCGCAACAA TTGGGTCTAA AGCTACTATT AACTTTGATT  | 9000 |
|    | GCAAGTATGG TAATGAAACA GTTAGATTTA CAATAAAaAA GGGCTCTCaA GGTGGAATAT  | 9060 |
| 25 | ATAAGTTGAT TTTAGACGGC AAGCaAATTA AGCaAATTTT TGTTTTTGCT AAGTCGGTTC  | 9120 |
|    | AGTCTGAmAC AATAGATTTA ATaaAAAAATA TTGATAAAGG CAAGCACGTT TTAGAAATGA | 9180 |
|    | TATTTTTTrGG AGArGrCCCC AAAAATAGAA TTGATATATC TTCAAATAAA AAAGCTAAGC | 9240 |
| 30 | CTTGTATGTA TGTTGGAAC T GAAAAATCAA CAGTCTTAAA TTTAATTGCT GACAACTCAG | 9300 |
|    | GTCGCAATCA ATACAAAGCA ATTGTTGaCT ACGTCGCAGA TAGTGCAAAG CAGTTTGGGA  | 9360 |
| 35 | TTCGATATGC TAATACGCAA ACAAATGAAG ATATCGAAAC ACAGGATAAG CTGTTAGAAT  | 9420 |
|    | TTGCAAAAAA GCAAATAAAT GATACTCCTA AGACTGAATT AGATGTTAAT TATATAGGTT  | 9480 |
|    | ATGAAAAAAT AGAGCCAAGA GATAGCGTAT TCTTTGTTCA TGAATTAATG GGATATAACA  | 9540 |
| 40 | CTGAATTAAA GGTGTGTTAAA CTTGATAGGT CACATCCATT TGTAACGCA ATAGATGAAG  | 9600 |
|    | TGTCTTTCAG CAATGAAATA AAGGATATGG TACAAATTCA ACAAGCGCTT AACAGACGAG  | 9660 |
|    | TTATTGCACA AGATAATAGA TATAACTATC AAGCAAATCG TATAAATCAT TTATACACTA  | 9720 |
| 45 | GTACTTTGAA TTCTCCTTTC GAGACAATGG ATATAGGGAG TGTATTAATA TAATGGCAAC  | 9780 |
|    | AGAAGAAGTT AAAATCAAAG CGCTACTTGA AAACGATAAA C                      | 9821 |

(2) INFORMATION FOR SEQ ID NO: 471:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1017 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 471:

5 TTATTGTTTT CCAAATGGTC TTCTCGGTGA TTTAACCATC GGTTCATC CTACGTGCTT 60  
 CACTTCTAT CtATTAATTC AaTTTCAGCT TGACCACCCG CTGTATAAAG GGTCAAAGTT 120  
 GCTAATCGAT AGCGTCTCAT TATAGGACCA ACATCGATAT CAATATTTTG AATACGAAAA 180  
 10 TATGGTATTA CCTTTTCATC CAAAAATAAA ATGCCGTTTC GTACACGCAA ATGGTGTTTT 240  
 TCAAAATGCAT ATCTGCAGTG CTTATATCGA TAGACTGGCG CTATAACAAG CGTGAAAACA 300  
 GCAACAAGTA ATATTATAAT CACACTACTA ACAATGGATA AATGGTTATC TAAAATCTCC 360  
 15 CAAAAATAGCC AGTTCAAAAT ATTAAATGCG ATTA AAAAGTA CAAGCGCTAT GGGTATCCAA 420  
 AACAGCACAG CACTTAACCT CATCACTTTT TTAGCGTGTG GTGACATAAA ATTATAATCC 480  
 CTCATCATTT TCACCTCTTA AATACCATGA TTTCAATTTA TTTGCATCTT CACTTCTTGC 540  
 20 GTATTTTAAG TTAATCGATT GGGCTCCAC ACCTTTAGCA ACAATAAAGC TAAAATTATT 600  
 TAAATTGTTG CGTTTAAGTA ATGTATGTTG CCAAGTGTC AATCCTATAA TGTGATGCGC 660  
 25 TTTAAAATAA TAAATATTTT GTTTCAATAG CTCGAAATTC TGGATAGTAA TTTGTTCTTC 720  
 TGTCATTTTA AAACCCGCAT GTTTGACATA AAGATATCCT TTGATCACAA ATAAACCAAT 780  
 AATGACTATT GTTATAATCG TAAATAACAA TAATAATTGA TTCCAAAAAT AACAGCCTAT 840  
 30 ACCTGCCATA GCTATGACAA TAATACTAGG TATTAAAAAG TGTCTGTGGA AACCTGACAA 900  
 AGGCATACCT TCATTAACTT GTTGATAAGA TAAATCTGGT ACTAAATTCT GGATAATTG 960  
 ATATGCTTTG TCTCGTTTAA TAAACGGCaA TATCGGCACA CTACCTGAAT CATTGTC 1017

## (2) INFORMATION FOR SEQ ID NO: 472:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6806 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 472:

45 TAGGATTGAT TAATCCTTTC TTCAAATGA TGAATGTGTA ATGTTAAATA TATAATTCA 60  
 GACTCACTGA TATTAACATC AAATTGTTTT TGTATCATAG TTAAAATTTT ATATGCTGTG 120  
 50 TTATAGCAAA TCGGATAGTG ATTTTTAATC ATAGACACAA AATCATCTTG TGCATGTATA 180  
 TATTCTTTTC TTCTTAATCG GCGAATTAAA AATTGTACGT GCCTTATAAA ACGTTGGTAT 240

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|----|---|------|
|    | TTAATAACAT TATTnGATCA AGGTCATCTC ATGCATAGAT AAATCTTCTG TATTaGATGC   | 360  |
|    | AATATGTAAT GCAATAAATC CTATCTCATC TTCAGGaAAA TGtaCATCTA ATGCTGCATT   | 420  |
| 5  | TAACTGATCA ATCACCTGTT TAGCAATATG ATATGCATCA CTATATAACT GCATAGTTTC   | 480  |
|    | CATAACAAAT GGATTGCTAA TAACTTGATT TTGTTTTAAG CGTTTATAAG CAAATATAAT   | 540  |
|    | ATGATCCGTT AATGAAACTA CAAGTTGTTT TGAATCAACA TTCATCGCAG TATTAGAAAT   | 600  |
| 10 | AAAATTCAAC GAATCAATAA TTACTIONGTAA TACATTATCA TCAGCGATTT CAACTAAACT | 660  |
|    | TTTATAATGT GCTTTTTGTT GCTCACTTTC TAATTTATAA ATTTTCTCTA TTGTAATAGT   | 720  |
|    | TTGGTCGTTT AACGCCATTC CCTCTTTTTT GTTAAAACCA ATACCTTTAC CGATTAAAAAT  | 780  |
| 15 | AACCTCTTGA TCATTATTAG TACATACTAC GACATTGTTG TTCAATGTTT TAGTAACAAT   | 840  |
|    | ATATTCTCCC ATTATCATCA CCTATTTTTT TATTATTAAG ATTATATATC GGAAATGTCT   | 900  |
| 20 | AACCTGAAAG TATAATAATT TAAATACTTG TGTTCTATTA CACGCCTATC CTATATGATA   | 960  |
|    | TATCTTAATT TAATTTTCGAT GTCTCTCAAA GTGGAATAAC TATAATAAAA AAATCTGACT  | 1020 |
|    | CCCATATTTA CAAATAATTC TATTTATTTA TATATTATCT GAATTAATAC TCAATACAAA   | 1080 |
| 25 | CTAAAACGTA CTATTAAATT GTGCAAAGCT AAAACAAATT TATATTCATC TATCCAACAA   | 1140 |
|    | TATGTCTTAT CAATGGTATA GTCTTTGCAC ACCAATGGAG GAAATAAATC TCAACCTTAC   | 1200 |
|    | TATATTAATA TATAATCAAA TCTTAGATTA ACTAGTGTA TGAACAGAT GATAATTGAG     | 1260 |
| 30 | TACAAATTTA AAACCCTGAG ATTTTCGCTT TAATTTGAAA ACCTCAGGGT TTATTTGATT   | 1320 |
|    | TTTATATAAT GAATCGTTAC ATTAATAAATA TTTATTTATC AGAGTTCTTA TATTTGTTAG  | 1380 |
|    | CGCCCCAAGC ACTAATTCCA AATAAGTTAA TTTCTAAGTT TTCAGGTTTA AAGACAGGGT   | 1440 |
| 35 | TCTTGCCTTC TTTTTTCTGC TTTTGATAAT CTTTCATCAA TGCAAAAGCT ACATTGGACA   | 1500 |
|    | GTCCTATAAT GGAAATAATG TTTACAATTG CCATTAAGCC CATAAATAAG TCTGCCGTAT   | 1560 |
| 40 | TCCATACTGT TTCTGTTTTT ACAACTGCAC CGACAAAGAC AAGTACTACA ACAAGACATC   | 1620 |
|    | TAAAGATAAA TAATATTACA CGGTTTGTTG ATAAAAATTC AATATTAGAT TGACCGTAAT   | 1680 |
|    | AGTAATTACC TACAACAGAT GAAAATGCAA ACAGTGTAAC tGCTaTTGTT AAGAAAATAC   | 1740 |
| 45 | CTCCAGCAGA ACCTAAATGC TCATTAAGTG CTGATTGAGT AACTGCAACA CCTTGAGGTG   | 1800 |
|    | CGTTATCACC AAATTTTCAGT CCTGAATATA GTAAAATCAT GATTGCAGTT GCTGTACAAA  | 1860 |
|    | CCAACATTGT ATCAAAGAAC ACACCTAATG ATTGGATTAA ACCTTGCTTA ACAGGGTGTG   | 1920 |
| 50 | GTACGGCAGC AGTTGCCGCT GCATTCGGCG CAGAACCCAT ACCAGCTTCG TTAGAGAATA   | 1980 |
|    | AACCACGTTT GATACCTTGA AGAACCGCAG CACCTACAGC GCCACCAGTT ACTTGTTCTGA  | 2040 |

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|----|---|------|
|    | GCAATATTAC TAAAACCATA CCAATGTAAA TGATAGCCAT AATCGGTACA ATTAACGAAG   | 2160 |
|    | ATAACGTAGC AATACTACGT ACACCACCAA ATATAATAAT AGCTGTTACG ATTGCTAAAA   | 2220 |
| 5  | TAATACCTGT GATTACTGGA CTAATATTAT ATTGCGTATT TAACGACTCC GCAATTGTAT   | 2280 |
|    | TAGATTGCAC TGTGTTAAAT ACAAATGCAA ATGTAATTGT AATTAAAATC GCAAATACGA   | 2340 |
|    | TACCTAGCCA TTTTGTGATTT AAACCTTTAG TAATATAGTA AGCTGGACCA CCACGGAATC  | 2400 |
| 10 | CACCATCTTT ATCATGTACT TTATAAACCT GAGCCAAAGT CGCTTCTATA AATGCACTCG   | 2460 |
|    | CTGCACCTAT AAATGCAATA ACCCACATCC AAAATACTGC ACCTGGACCG CCTAAAAACA   | 2520 |
|    | TCGCAGTCGC AACACCAGCA ATATTACCAG TACCAACTCT CGAACCAGCA CTAATCGCAA   | 2580 |
| 15 | ATGCTTGGA TGGCGAAATA CCCTTCTTAC CATCTTCTAA AGTTTCTGGA CGTTCTACTA    | 2640 |
|    | AAGCTCTAAA CATTTTCAGGT AACATTTCGTA ATTGAACGAA TTTAGAACTA ATCGTAAAGA | 2700 |
|    | AGAATCCAGC TGTCAATAAT AGACCAATTA AATATTGAGA CCATATTAAA TCGGTACCAA   | 2760 |
| 20 | CATGGACAAA TTCTTTAAAC CATCCAGGTA TTAACTATC GAAATCTTTC AAAATAAACC    | 2820 |
|    | CCTCGCATCC TCTACATGAA TCATGTACCT TCTATAAAAT TAGACCGAAT TGAACCTTCA   | 2880 |
|    | GTAAATATAG AGATACATCA TCATTCTTA TACAATACAA GAGATTTATA TTAGTTTGGT    | 2940 |
| 25 | CAAAGTATAT CGCTAATTTA ACGATAAGTA CTTGGTCAGC ATTTAATATA AATCCCTTGA   | 3000 |
|    | ATTTAGTCAA AATTAAACAT TACTGTATTT TATCATTTAA TTTCGTGATT GCATATAGTT   | 3060 |
| 30 | TTTAGCTAAT ATACATGTCT ATTACTTCAC CAAAATCATC TGTATCTACA ATGAATGAGC   | 3120 |
|    | CATTTGTATA TTGTTTCAGAT TTATGAATAT CATTAAATTA ACCATGTTCT TCATTGATT   | 3180 |
|    | TTGAATATAA TGTATATTGA CTATGTTTAC CTGTCACTAC ATGTGCAGCT ACAATACGAT   | 3240 |
| 35 | GTGGATTTTT CTTTAATTCT TTTAATAAAG TTATTCCaCG TTGTGCTCTT TTAGCAACTT   | 3300 |
|    | GTAAGATTTT AAAACTAATA CGTTTTAACG AGCCGCGTTG TGTGGCCATC AATATAGTAT   | 3360 |
|    | CATTTTCAGA AACACCTTCT GTCATAACAA CGAAATCTTC AGCTTTAAGA TTTATTGATT   | 3420 |
| 40 | TAACACCAGC TGCCCTTAAT CCGGTATCTG ATAGTTCACT TGTATTATAC GTTAATGACA   | 3480 |
|    | TACCTTTATT AGTAATGACG GTAATTAATT GATCTTTTTC AAAGCGCATA AACTAATCA    | 3540 |
|    | AATCATCATT TTCTTTAACT TTAGTAGCAA TTAAAGGTTT ATTAACACGC GTTGTTTTAA   | 3600 |
| 45 | ATAGAGGCAC TGTACTTTTC TTAATCATGC CATTTTGAGT CGCAAAAACA TAAATGCAT    | 3660 |
|    | CTGTATTAAA GTCCTTTTCA TTAAAGACAT TAATAACCAC TTCATCTTCT TCGATAGGAA   | 3720 |
|    | CTATTTGTGA TACATGTTGT CCCAATTCTT TCCAACGAAT ATCTGCTAAT TTATGAACCG   | 3780 |
| 50 | GTATAAATAG ATAACGACCT TTATTTGTAA ATACTAGTAC GGTATCTTGC GTATTTACTT   | 3840 |

|    |            |            |            |            |            |             |      |
|----|------------|------------|------------|------------|------------|-------------|------|
|    | TAAAGCTACG | AATAGAAGTA | CGTTTAATAT | ATCCATGACG | TGTCATACTT | AAAATAACTY  | 3960 |
|    | CTTCACTAGG | CACCATAACT | TCTTTGTCAA | TTTTAATTTT | TTCAATTTCT | GCTTCAATTA  | 4020 |
| 5  | AAGACAGTCG | TTCAGATTTG | AATTTCTTTT | TAATTTCAAT | CAATTCTTCT | TTTATGACAT  | 4080 |
|    | TCAATAATGC | ATCATGGTTA | TCAAGAATAT | GACGTAATTG | TTTGATTAAT | GCTTCAAGTT  | 4140 |
|    | CTTTATGTTT | ACCTTCAAGC | GCAACTATGT | CAGTATTTGT | TAAACGATAT | AACTGTAACA  | 4200 |
| 10 | TTACAATTGC | TTCAGCCTGT | TCTTCTGTGA | ACTCGTATAC | TTGATAAGG  | TTTTCTTTAG  | 4260 |
|    | CGTCACGCTT | GTTTTTAGAG | CWACGAATCA | ATTCGATTAC | TTTATCTAAA | ATTGACAACG  | 4320 |
|    | CTTTAATCAA | ACCTTCAACG | ATATGCATAC | GTTTTTCTGC | ATTATCTAAT | TCAAACCTTCG | 4380 |
| 15 | TTCTATTTGC | AACAACCTCA | ATTTGGTGAT | TCAAATAACT | ATCTATAATT | TGACGAATAC  | 4440 |
|    | CCATCAATTT | TGGACGACCA | TCACTAATAG | CGACCATGTT | GAAATTATAT | GAAATCTGTA  | 4500 |
| 20 | AATCAGAGTT | TTTATAAAGA | TAATTTTTGA | TTGATTCAT  | GTTACATCT  | TTTTTCAATT  | 4560 |
|    | CAATTGCTAT | TCGTAAACCA | GTTCTATCAG | TTTCATCACG | TACTTCAACG | ATACCATCGA  | 4620 |
|    | CTTTTTTGTC | AGCACGTAAT | TCATCGATAC | GTTTTACTAA | GCTACTTTTG | TTCACTTCAT  | 4680 |
| 25 | ATGGAATTTT | AGTAATAATT | AACTGTTTAC | GTCCATTGCG | TAAAGTTTCT | TCTTCAACTT  | 4740 |
|    | TAGAACGAAC | TATAATTCTA | CCTTTACCTG | ATTCATAAGC | TTTTTTAATA | CCATCAATAC  | 4800 |
|    | CTTGAATAAT | ACCACCAGTT | GGAAAATCAG | GACCTTTAAT | ATATTTCAAT | AATTGATTGA  | 4860 |
| 30 | CTGTAATATC | CGGATTATCA | ATATATTTAA | GTGTTGCTTG | AATCACTTCA | GCTAAATTAT  | 4920 |
|    | GTGGTGGTAT | ATCTGTCGCG | TAACCTGCAG | ATATACCTGT | AGAACCATT  | CTAGTAAGT   | 4980 |
|    | TAGGAAATCT | TGATGGCAAT | ACCATTTGGT | CGAGTGTCGT | ATCATCATAG | TTTGGAATGA  | 5040 |
| 35 | AAGAAACTGT | CTCTTTATTA | ATATCACGTA | ATAACTCTTC | AGCTAGTAAG | CTTAACCTAG  | 5100 |
|    | CTTCAGTGTA | ACGCATTGCC | GCTGGCGGAT | CATTATCGAT | ACTACCATT  | TTACCATGCA  | 5160 |
|    | TTTCTATTAA | GACATGTCGT | AACTTCCAGT | CTTGACTTAA | ACGGACCATT | GCTTCGTACA  | 5220 |
| 40 | CTGAGGAGTC | TCCATGTGGA | TGATATTGAC | CAATAACATC | ACCGACTGTT | TTGCACTTTT  | 5280 |
|    | TACGGAAATT | TTTATCGTGT | GTATTACCAC | TTGAATACAT | TGCATATAAA | ATACGACGTT  | 5340 |
|    | GTAAGGTTT  | TAAACCATCA | CGAACATCTG | GCAATGCACG | CTCTTGAATA | ATATATTTAC  | 5400 |
| 45 | TATATCTTCC | AAAGCGATCA | CCTAAAACAT | CTTCAAGTGA | TAAATCTTGA | ATTATTTTAC  | 5460 |
|    | TCACTAGATT | TCCTCCTCAT | CAAATTGATC | ATTTTCAAGC | ACTTGACTT  | CAGAATTATC  | 5520 |
| 50 | TAAAATACTT | TGGTCCTCTT | GCATACCAAA | CTCAACATGC | TTTTCAATCC | ATTCACGTCT  | 5580 |
|    | AGGTTGTA   | TTGTCACCCA | TTAATGTTGT | TACACGTTTA | GATGAACGCA | CTTCATCTTC  | 5640 |

AGGGTTCATT TCACCCAAAC CTTTGTAACG TTGTAACGTG AaGCCTTTAC CAAGTTCCTT 5760  
 TTGCAATTTA TTAAGCTCTT CGTCTGTCCA AGCGTATTCA ACTCGCTTTG TTTTGCCTTT 5820  
 5 ACCTTTTTC C AATTTATAAA GTGGAGGTAA AGCAATAAAT ACACGACCTG CTTGAACAAG 5880  
 CGGTTTCATA TATTTGAAGA AGAATGTAA CAATAGCACT TGAATATGCG CACCATCAGT 5940  
 ATCAGCATCA GTCATAATAA TTACACGATT ATAATTACTA TCTTCAATTT TAAAGTCAGT 6000  
 10 ACCAACGCCT GCCCCGATTG TGTGGATAAT TGTATTAAAT TCTTCATTTT TAAAAATATC 6060  
 TTCTAGACGT GCTTTCTCTG TATTAATTAC CTTACCACGT AATGGTAATA TCGCTTGGA 6120  
 TTTGCGGTCT CGTcCAAGTT TTGCTGAACC TCCCGCAGAA TCACCTTCGA CTAAATACAA 6180  
 15 TTCAATTTTT TCAGTGT TTTT TACTTTGTGC AGGTGTTAAT TTACCAGATA GCAAAGTGTC 6240  
 TTTACGCTTG TTTTCTTAC CTGAACGAGC ATCTTCACGA GCTTTACGTG CAGCTTCCCT 6300  
 TGCTTGTTGT GCTTTAATCG CTTTTTTCAC AAGTGATTTA GACAATTGTC CTTTTCTTC 6360  
 20 TAAATAGAAT GGCAATTTGT CTGCAACAAC TGAATCAACA GCACTTCTAG CTTGAGAAGT 6420  
 ACCCAATTTA GATTCGTTT GTCCTTCAAA TTGCAATAAT TCTTCTGGAA TACGAACAGA 6480  
 CACAACAGCT GTTAAACCTT CACGAATATC ATTACCATCT AAGTTTTTAT CTTTTGTTTT 6540  
 25 AAGTTCATTA ATACGACGTG CATAATCATT AAATACACGT GTCATTGCTG TTTTAAAACC 6600  
 AACTTCATGT GTACCACCAT CTTTAGTACG TACATTATTT ACAAACCTTA AAATACTTTC 6660  
 TGAATATTGA TCATTATATT GGAAAGCTAC GTCTACCTCT ATACCATTG CTTACCTGA 6720  
 30 AAATGTAGCC ACGTCATGCA AAATCTCTTT TCCTTCATTG ACATAACTAA CAAACTCTTT 6780  
 GATTCCTTCT TATAATGGTA TGTCTT 6806

(2) INFORMATION FOR SEQ ID NO: 473:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1716 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 473:

GGGGCAnAAA TTCCAATACA CTCATTACCA AATATATACA CCACTTCCTG CTACAAGTnn 60  
 TTTTACTTGA TCTTGGTCTT TTCCGCAGAA AGAGCATTTT CAAATTTTCT TCATCTTCCA 120  
 TTGAATTTAA ACATTCTTTT TACACCCCTA TTCGTTAAAG ACTATACTAG ATTGGATGTT 180  
 50 ACAATGCAAC ATATTAACAT ACAAACCTTT TGCTTAAAGA ATAGTAGCAG ATACATAAGC 240

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|----|--|------|
|    | CCTTCAACGA ACTTTGCGTT ATCTCTTAAT AAATCGATAA CTTTTTGGAT ACGAACATCA  | 360  |
|    | TTTTTAATGA TATCAGTATT ACCTAAAGTA TTTTGTATAT CTTCAACTGA GATATTAAAT  | 420  |
| 5  | TGTTTACTCA TTTTTTCTAA TTCTTTATCG ATATCTTCAT CAGTAGCTTC GATTTTTTCA  | 480  |
|    | GCTTCAGCGA TCGCAGTTAA AGTTAAGTTA GTTTTAACAC GTTGTCTGTC ATCGTCTTTC  | 540  |
|    | ATTTGCTCTC TTAATTGAGT TTCATCTTGA CCTGAGATTT GGAAGTACGT TTGTAAATCT  | 600  |
| 10 | AAACCTTGTT GTTGAATTCT TTGTGCAAAT TCAGACACCA TACGATCTAA TTCAGTATTA  | 660  |
|    | ACCATTGCTT CAGGAATATC GATTGTTGTA TTATCAGTAG CTTTTGTAAT CGCTTCTTCT  | 720  |
|    | TTTTCAACAT TTTCAGCATC TGTAGCTTTT TGTTGAGCTA AACGTTTACG TAAGTTTTCT  | 780  |
| 15 | TTGTACTCGT CTACTGTATT TGCTTCTGCA TCTAATTCAT TAGCAATTTT ATCTGTAAAT  | 840  |
|    | TCTGGGACTT CTTTAAATTT AATTTTCGTTA ACTTTTGTTT TGAAAGTTGC TTCTTTACCG | 900  |
| 20 | GCTAATTCTT CAGCATGGTA TTCTTCTGGG AATGTTACGA CAACATCTTT TTCTTCGTCA  | 960  |
|    | ACTTTCATAC CTTCTAATTG CTCTTCGAAA CCAGGTATGA ATGAACCTGA ACCGATTTCT  | 1020 |
|    | AAATCGTAAC CTTCAGCTTG TCCACCTTCG AATTCTTCTC CGTCAACTGA ACCACTAAAG  | 1080 |
| 25 | TCGATGTTAA CTGTGTCGCC ATTTTCAACA ACACCATCTT CTTTAACGAC CATTTTCAGCT | 1140 |
|    | AAATGTCCTA AGCTGTGGTC AATCGCTTCT TGTAATCAT CATCAGATAA TTCAGTTTCT   | 1200 |
|    | TGTTTTTCAA TTTCAAGACC TTTATAGTCT CCTAATTTAA CTTCTGGCTC AACTGTAACT  | 1260 |
| 30 | GTTGCTTCAA AAATGAAATC TTTACCTTTT TCAATTTGAG TAACACTTAC TTCTGGTTGT  | 1320 |
|    | GCAACTGGTT TAATATCAGT TTCGTCAATT GCTTCACCAT AAGCATCTGG TAATAAAATG  | 1380 |
|    | TCGATAGCAT CTTGATATAA TGCTTCTACA CCAAAGCGTT GTTCAAAAAT TGGACGTGGC  | 1440 |
| 35 | ACTTTACCTT TACGGAATCC AGGTACGTTA ATTTGTTTAA CCACTTTTTT GAATGCTTGA  | 1500 |
|    | TCTAACGCTT TGTTTACTTT TTCTGCAGGA ACAGTAACAG TTAATAAACC TTCGTTACCT  | 1560 |
|    | TCCTTTTTTT CCCAAGTTGC TGTCATGTAT ATATACCTCC ATGATTAACT AATTTATTTT  | 1620 |
| 40 | TTCAACTTCC CTATTATATC ATACGTCTAT TCCCTATACA AACATTGAAA TCACAACGTT  | 1680 |
|    | TATATATTTG TAAATCAACT TTTTTCGTCA AACTA                             | 1716 |

(2) INFORMATION FOR SEQ ID NO: 474:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 795 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

|    |  |     |
|----|--|-----|
|    | TGACCAAGTA CGTTTCGAAG TTGCCATTAA AGCATTAAAC CCATCATTGA AAGCATTTCG  | 60  |
|    | ACCTGTACGT GAGTGGGCAT GGAGTCGTGA AGAAGAAATC GATTATGCAA TTAAACATAA  | 120 |
| 5  | TATCCCTGTA TCAATCAACC ATGATTCACC TTATTCTATC GATCAAAATC TATGGGGCAG  | 180 |
|    | AGCGAATGAA TGTGGTATTT TAGAAGATCC TTATGCTGCG CCACCAGAGG ATGCGTTCGA  | 240 |
|    | TCTAACAAAT GCTTTAGAAG AAACACCAGA TACTGCTGAT GrAATCATT TAAACGTTTGA  | 300 |
| 10 | TAAAGGCATC CCAGTTCAAA TTGATGGCAA AACATATGAA TTAGACGATT TAATTTTAAAC | 360 |
|    | GTTGAATGCA TTAGCTGGTA AGCATGGTAT CGGAAGAATT GACCATGTAG AAAATAGACT  | 420 |
|    | TGTAGGTATC AAATCAAGAG AAATTTATGA GGCACCTGCT GCAGAAGTTA TTTTAAAAGC  | 480 |
| 15 | GCATAAAGCA TTAGAAACGA TTACGTTAAC GAAAGATGTC GCACACTTTA AACCAATCAT  | 540 |
|    | TGAGAAGCAA TTTGCTGAAC AACTATACAA TGGACTTTGG TTCTCACCTT TAACTGATAG  | 600 |
|    | CTTGAAATTA TTTATTGATA GTACTCAGCA ATACGTAAGT GGTGATGTCA GAATTAAATT  | 660 |
| 20 | ATTCAAAGGT AATGCCATCG TGAATGGTAG AAAATCACCT TACACATTAT ATGATGAAAA  | 720 |
|    | ATTAGCAACT TATACAAAAG AAGATGCATT TnATCAAGAC GCTGCTGTTG GCTTTATCGA  | 780 |
| 25 | TATCTATGGT TTACC   | 795 |

(2) INFORMATION FOR SEQ ID NO: 475:

(i) SEQUENCE CHARACTERISTICS:

|    |                            |
|----|----------------------------|
|    | (A) LENGTH: 887 base pairs |
| 30 | (B) TYPE: nucleic acid     |
|    | (C) STRANDEDNESS: double   |
|    | (D) TOPOLOGY: linear       |

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 475:

|    |  |     |
|----|--|-----|
|    | CGATTGAAAG AAGACGGTTC AGTTGAAAAG TTTCCAAAGC CAGTAATTAG CCAACAACCA  | 60  |
|    | GAAGGATATA CGAGTCATTT TAGAGATCCT AAAGTTTTTA AATATGATGr GaAATATTAT  | 120 |
| 40 | GCAATCaTTG GTGmCaAAA TAATGATCaG CaAGGTCGAT TATTACTTTA TAATACTGAA   | 180 |
|    | GATATAATTA ATTGGCATT TTTAGGTGAA ATAAATACAG AGTTGGATGA TTTTGGATAT   | 240 |
|    | ATGTGGGAAT GCCCAGATTA CTTTAATGTA GATAATCAAG ATGTCATACT TATTTGTCCA  | 300 |
| 45 | CAAGGTATTG AACCAAAAGG CGATCAGTTC AAAAATATTT ATCAAAGTGG TTATATACTT  | 360 |
|    | GGAAAGTTTG ATATTGAAAA GTTAACATAT GAACATGAAA ATTTTGTGCGA GCTTGATAAT | 420 |
| 50 | GGTTTTGATT TCTATGCACC TCAAACATTT TTAGATGAAA AAGGCCGACG AGTACTAATT  | 480 |
|    | GGATGGATGG GGTACCGGA AATCGAATAT CCTACTGATA ATGAAGGATG GGCCCATTCG   | 540 |

GCGTTGGAAA AATTACGTCA CAATAAAGAG ACAGCATTtA GGctACGCAA ATAAATTTAC 660  
 TCGAAAATTA CATCCGTATG AAGGTAAACA GTATGAATTA ATCATAGATA TTTTGGATAA 720  
 5 TGATGCTACC GAAGTGTA CT TTGAATTACG TACATCTAAG ACTTCTTCAA CATTAAATTGC 780  
 TTATAACAAG CGTGAAAATA AAATAACATT AGATCGCAGC GACAGTGGTT TATTGCCGAC 840  
 AAATGTTGAA gGTACGACGC GTAGTACGAT ATTAGACACG CCATTAA 887

10 (2) INFORMATION FOR SEQ ID NO: 476:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1183 base pairs  
 (B) TYPE: nucleic acid  
 15 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 476:

TTGGAAnCAA AAAACCATTG GTAAACCGTG TThAACCGGA TTTCCGATGG ACCTTTTAAA 60  
 ACnACCAAAT AGAAAGCTTT GATAAAAGGT AATTATGGTA CTGATAACAA ACAAGTTCAA 120  
 25 AAACATCATG ATTTAGTACG TATGCTTTTG ATGGATCAAG ATGGTTTTTTT AACTGAAAAT 180  
 AATAAAGTTG ATCATTTTAT TGATGGAAAT GATTTATATG ATCAAGTTTTT AAAAGATATT 240  
 AAAAATGCAA AAGAtATATC CATTTAGAGT ACWATACTTT CGCTTWAGAT GGTTWAGGTA 300  
 30 AAAGAATTTT ACATGCTTTA GAAGAAAAAT TGAAACAAGG TCTAGAAGTA AAAATATTAT 360  
 ATGATGATGT TGGATCTAAA AATGTTAAGA TGGCAAATTT TGATCATTTT AAATCGTTAG 420  
 GTGGAGAAGT TGAAGCATTT TTTGCTTCAA AATTACCGTT ATTGAATTTT AGAATGAATA 480  
 35 ATAGAAATCA TAGAAAAATC ATCGTAATCG ATGGTCAACT AGGTTATGTC GGAGGATTTA 540  
 ACATTGGTGA TGAATATCTm GGATTAGGAA AATTAGGATA TTGGAGAGAT ACGCATTTAC 600  
 GTATACAAGG GGATGCGGTT GATGCACTGC AGTTGCGATT TATTTTAGAC TGGAATTCGC 660  
 40 AAGCGCACCG TCCACAATTT GAATATGATG TTAAGTATTT CCCTAAAAAG AACGGACCAT 720  
 TGGGCAATTC ACCAATTCAA ATAGCTGCAA GTGGCCCGGC TAGTGACTGG CATCAAATTG 780  
 AATACGGTTA TACAAAAATG ATTATGAGTG CAAAGAAATC TGTATATTTA CAATCACCAT 840  
 45 ATTTCAATTCC GGATAATTCA TATATaAATG CCATTAAAAT TGCTGCTAAA TCAGGTGTAG 900  
 ATGTACATTT AATGATTCCA TGTAAGCCAG ATCATCCATT AGTATATTGG GCGACATTTT 960  
 50 CAAATGCCTC TGACTTATTA TCAAGTGGTG TTAaaATTTA TACGTATGAA AATGGATTTA 1020  
 TACATTCTAA AATGTGCTTA ATTGATGATG AAATCGTATC AGTGGGCACA GCAAATATGG 1080

CTAAAGATTT AAGGGTGGCT TATGAACATG ATATTACAAA ATC

1183

## (2) INFORMATION FOR SEQ ID NO: 477:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2332 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 477:

|    |  |      |
|----|--|------|
| 5  | GGTTATATGT TTGGTATTAC TCATTATATT GATTGGAGGT TGTGTCATTA TGACAAAAAC  | 60   |
| 15 | AAATGGTCGA AACGCTCAAA TTAAAGAAAA TTTCAACAAA ACATTAAGTG TATATCTAAC  | 120  |
|    | CAAGAATCTC GATGATTTTT ACGATAAGGA AGGTTTTTCGA GATCAAGAAT TTGATAAAAG | 180  |
| 20 | AGATAAAGGG ACTTGGATTA TTTATTCTGA AATGGTTATC GAACCAAAAG GGAAnAATAT  | 240  |
|    | GGAATCGAGA GGAATGGTGC TCTATATCAa TCGCAATACT AGAAGmACGA AGGGTAATTT  | 300  |
|    | TATTGTCACC GAAATAACTG AAGATAGTAA AGGATATTCA CGTAGTAAAG AAAAAAATA   | 360  |
| 25 | TCCTGTCAAG ATGGAAAATA ATCGAATTAT TCCAACAAAG CCTATACCGG ATGACAAGTT  | 420  |
|    | AAAAAAAGAG ATTGAAAAC TTAAGTTCTT TGTACAATAT GGAAATTTTA AAGATTTTAA   | 480  |
|    | AGATTATAAA AATGGTGATA TTTCATATAA TCCTAATGTG CCAAGTTATT CTGCAAAGTA  | 540  |
| 30 | TCAATTGAAT AATGATGACT ATAATGTTCA ACAGTTAAGA AAACGATATC ATATTCCAAC  | 600  |
|    | CAAACAAGCG CCCGAATTAA AATTGAAAGG ATCCGGCAAT TTAAGGCT CATCCGTAGG    | 660  |
|    | ATCTAAGGAT CTAGAATTTA CGTTTGTAGA AAATCAAGAA GAGAATATCT ATTTTTCAGA  | 720  |
| 35 | TTCGGTCGAA TTTACACCTA GCGAGGATGA TAAATCATGA GTCAAACGGA ATATCAAATA  | 780  |
|    | AAATCTGGCA ATATAAAAGG TAACTCTGAA GAAACAAGTA CAGTATCTAA TATAAGTTAT  | 840  |
|    | GAAATAGAAA ACGCAAATAA CAGTGGTTTA AAACAAATA AAATTGATAA ACAAATTAAA   | 900  |
| 40 | AAGTTACAAG AAAAAAATAA ATTCCCTAAA AATCTTTCAT ATCTTAAAAG TTATACGGAC  | 960  |
|    | CCCAAAACAG GCACGACTAC AAGCGCCTTT TTAAATAAAG AACTGGCAA AGTTACTTTA   | 1020 |
| 45 | GGTATGACAG GTACTAATGT ACACAAAGAC GCAATATTAA AACAAACATT TGGTGTTCCT  | 1080 |
|    | TCTTATCAAG GATATATAGA CGTGAGTGAA ACgCTaAAAG ATATTGGGGC CGATGTCAAT  | 1140 |
|    | ATTGGCCTTC ATTCCGTCAC AGATAAAGAT CCACATTATA AAAATACCCA AGACTTTATC  | 1200 |
| 50 | AAAAATATCA AAAAAGACTA TGATATTGAT ATTATTACCG GACATTCGCT GGGCGGTAGA  | 1260 |
|    | GATGCGATGA TTTTAGGTAT GAGTAATGAT ATTAAACATA TCGTTGTGTA TAATCCAGCT  | 1320 |

ATTGAAAAGT ACGATGGTCA CATTGTAAGA TTTGTGTCTG ATGAAGACGA ATTAGATGCA 1440  
 GGTGTCCGCA ATCATTTTATA TGAAACTGCT GGAGAAAAAA TAGTACTTAA AAATGGAGAA 1500  
 5 GGCCATGCAA TGAGTGGTAT TTAAATGAGC AGAACACAGG CTATAATCTT AGCTGAATTA 1560  
 AACAAAGTTA AAGGCTACCA AGACGAAAAT AATAAAGCAT TAAAATCCGT TCGTAAACAA 1620  
 ACGAGGCATA GATTACATAA AGTAGAGACG TTAAGAGCGA ATTGGATTCA AACACGGGT 1680  
 10 GGATCACTCT CTCCTCCCw ACAACAATTA TTAGAAGCTT TAACAGCACT AACCATTGCC 1740  
 GAAGGCTTAA ATCAATTAGT GAATGAAGAA AGCCAACATT TGAAAAAATG TATCACGCGA 1800  
 TGGCACATAA ATTTGGAGAC AACTGGAAAA AAGCGCAAGA AGTTGGAAAT GAAATTGGTG 1860  
 15 AAAAATTAAC CTCTGAAGAG GTTATAGATG rATTAAGAAA AGGTGGCGCG TATGAAAGTa 1920  
 AACTTGAAAC AGATCCCAAA AGAAAAATTG ATGATAAGAT AAAGAAATTA AATGATGTTT 1980  
 ATAAAAATTG TAATGGCTAT ATCGCAAAAA TTAAACAGAG TATCGAAGCA ATTGTTTCTA 2040  
 20 ATGACCAAAT GTTAGCGAGC CAGATTGATG GGATGATGTA ATGTTTACTA CGTATAAnAA 2100  
 TATTAATGAA CTTGAAAATG CCTATGATGA AGAAAGAAAA CAATTGAATG ATGCATTCAA 2160  
 TCAAATTGAT GAATTAAGAC ATCAAACACG CAAGAmATGT GAACAAATGT ATGATCATTT 2220  
 25 CTTATATCTC AAACATAAAA TGAATTmymS TGAAGACGCT ATGATCAGGA TGACACGTAT 2280  
 TATAGAATCT TTCGATAGAG AAACGAATCA ACGTATCCGA CATCACGAAA TG 2332

(2) INFORMATION FOR SEQ ID NO: 478:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 865 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 478:

TTTACTACCC AGTATCTCTT TTTATAAATT ATATAGCCAC CACATATGGT GGAAAGTCTT 60  
 TTTAATTAGA ATTTTGTTTT TTCAGTTAAG AAAGCTTCTA ACTCTGAGAT TGGCATACGA 120  
 ACTTGTTCCTA TTGAATCTCT GTCACGTACT GTAACCTGAT TATCTTCTAA TGAATCAAAG 180  
 45 TCGAATGTtA CACAATAAGG TGTaCCGATT TCATCTTGAC GACGGTATCT TTTACCGATA 240  
 GATtGTGATT CATCGAAATC GATTGAGAAT TTAGAACTTA ATTGCTCAAA AATCTTAATC 300  
 50 GtTCGCCAGA TAATTTCTTA CTTAAAGGTA AAATCGCTGC TTTATATGGT GCTAATGCAG 360  
 GATGGAAGTG TAAAACGTGA CGTGCATCTT TACTACCTTC AACGCCTTCT TCATCATATG 420

|    |  |     |
|----|--|-----|
|    | GAATATATTT TTCGTTTCGTT TCTGGATCAT GGTATCTGAA ATCTTCACCA GAGTGTTCAG | 540 |
|    | CATGTTTACG TAAGTCGAAG TCTGTACGAC TTGCGATACC CCATAACTCA CCCCACCCAA  | 600 |
| 5  | ATGGGAATTT ATATTCAATA TCAGTTGTTG CATTGAGTA ATGAGATAAT TCATCTTCAT   | 660 |
|    | CATGATCAGC TAAACGCATA TTTTCACTGC TCATATTTAA GCTTGTTAAC CAGTCACTTG  | 720 |
|    | CAAAAGTTTT CCAATAATTT TGCCATTGCA TTTCTTCTCC AGGTTTACAG AAGAATTCAA  | 780 |
| 10 | GTTCCATTTG TTcAAATTCT CTGTGTTCTGa AAATGaAGTT ACCTGGAGTG aTTTCaTTAC | 840 |
|    | GGaATGaTTT ACCAATTTGG ACCGG  | 865 |

## (2) INFORMATION FOR SEQ ID NO: 479:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1444 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 479:

|    |  |     |
|----|--|-----|
| 25 | TAATGAGTAA ATAAGTACCA GATAAAATCA TGAATATCAT CCAACATGCG GTTAACTCTA  | 60  |
|    | CTAAATAATT AATAATAGTA TTTTCAGTAA ACAAAGAACT ATGTATACTT CGCATCACAT  | 120 |
|    | TAGAATACGT ATGTTTCGCA TTTTGATCTG CAACAAATTG ATTGTTATGA TCTAGAAAGA  | 180 |
| 30 | CGTAACGTTG ATTTCTGCGC ATATCACTCA GTGTAATTCTG TTTGTTATAT GGTTCATCAA | 240 |
|    | GTATGCTAAC TTTACTTACA AAGAATCCTT CATATTGTTG TTCAACTTGA TGTACTGCAT  | 300 |
|    | CATTTAATGT TTGATGCGTT TTTACATCAC TGTCACCAAA AAATCATTC TTATAAATAT   | 360 |
| 35 | TATTTTCAAC TTCTGGAAAG AACAAGTAAC CAATGCCCCG AATGGTTAAA GTGATTAAAC  | 420 |
|    | GTGGAGCAAT AAATATTGCT GCATAGAAAT GTAATCTTTG TAATGGATTA AATGTATTTT  | 480 |
|    | TCATATTTCC CTCCCAATTG GCTATTATAC GGTGTCAATT CTGTGATGTG TGTGAACAAA  | 540 |
| 40 | CTGTGACAAT ATTTATTTTC TAGAAAAATT TAACGATGAT TTGTGATTTT TAGAAAAATG  | 600 |
|    | AACTTTTAAG TTGGAATGTT TGAAGAAAAT TGATTATTCG TATGTTTTAT CAAGCAGCTA  | 660 |
| 45 | TGATAAAATT TAAACATAAT ACAATGCGAG CCATTTAACG ATCTATGTTT AAATGGACAT  | 720 |
|    | CGATATTGTA TGAATTCGTT GTAACAAGCA AGCATTTCTA TGTGAACGAA CCAAAGGGGA  | 780 |
|    | AAGTAACATG ATTAATAAAG AACAATTAGA TCTTTTATAT AAATTAAAAA AAGAAGTTGA  | 840 |
| 50 | AAAGTCGCGA AATGAAGCAC TTTTACATAC AATTAACCAA GTAATTAAGA AAGTATATTT  | 900 |
|    | GCAGCAATAT ACATGTTCTG TCGTTGGACA TTTTCTGCA GGTAAATCGA CACTGATAAA   | 960 |

|    |   |      |
|----|---|------|
|    | TATTGTGTCA GTTTCAGACA ATCACGATAT TATTGCTAAT TTGCCGAATC AAACGTATGC | 1080 |
|    | CAAATTATCT AATTATGATG AAGTAAGGGA AATGAATCGC CAAAATGTCG ACGTTGAATC | 1140 |
| 5  | TGTAGAAATT AATTTTCAAT CAGCTAAATT TGAAAATGGG TTTACGTTGC AAGATACACC | 1200 |
|    | AGGTGTTGAT TCAAATGTTG CATCACATCA GTCAATAACA GAACAATATA TGTATACAAG | 1260 |
|    | TAATATGATA TTTTATACGG TTGACTATAA CCACGTTCAA TCTGAACTTA ACTTTAAGTT | 1320 |
| 10 | TATGAAGCAT ATAAATGATG TTGGaATACC TGTGTGTTT ATCATTAAATC AAATTGACAG | 1380 |
|    | CATCCAAGAC GATGGAATTG TCATTCTCTA CGTnTTAAAT CTCGAGTTGG AAAAATCAAT | 1440 |
|    | TGGC  | 1444 |

## (2) INFORMATION FOR SEQ ID NO: 480:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6309 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 480:

|    |   |     |
|----|---|-----|
| 25 | GCAGCAGCTT ATCGTGAGTT ATCATTATTA TTACGTAGAC CTCCAGGTGC TGAakCATAC | 60  |
|    | CCAGGTGACG TATTCTACTT ACATAGTAGA tTATTAGAAA GAGCAGCAAA ATTAAACGAT | 120 |
| 30 | GACTTAGGTG GCGGTTCAAT TACTGCATTA CCAATTATCG AAACACAAGC TGGTGATATT | 180 |
|    | TCAGCTTATG TACCAACAAA CGTTATTTCA ATTACAGATG GACAAATCTT CTTACAATCT | 240 |
|    | GATTTATTCT TCTCAGGTGT AAGACCAGCG ATTAATGCCG GACAATCTGT ATCTCGTGTT | 300 |
| 35 | GGTGGATCTG CACAAATTAA AGCAATGAAG AAAGTTGCTG GTACGTTACG TCTTGACTTA | 360 |
|    | GCGTCATACA GAGAACTTGA ATCATTTGCA CAATTCGGTT CAGACCTTGA TGAATTTACT | 420 |
|    | GCAAGTAAAT TAGAACGTGG TAAACGTACT GTTGAAGTCT TAAAACAAGA TCAAAACAAA | 480 |
| 40 | CCATTACCAG TCGAACACCA AGTGTTGATT ATTTATGCAT TAACAAAAGG ATATTTAGAT | 540 |
|    | GATATTCCAG TTGTAGATAT CACACGTTTT GAAGACGAGT TAAACCACTG GGCAGAATCA | 600 |
|    | AATGCTACTG AACTGTTAAA TGAAATCAGA GAACTGGTG GCTTACCAGA TGCTGAGAAG  | 660 |
| 45 | TTTGACACAG CAATTAACGA ATTCAAAAAA AGCTTTAGCA AATCTGAATA ATAAACAAGT | 720 |
|    | TTAGTATAAG GTGGTGAGAT AGTGGCTTCT CTTAAAGAAA TAGATACTCG AATAAAATCA | 780 |
| 50 | ACCAAAAAAA TGAAGCAGAT TACGAAAGCG ATGAACATGG TATCAAGTTC AAAACTTCGT | 840 |
|    | AGAGCTGAAA AAAATACAAA ACAATTCACA CCATATATGG ATAAATGCA AGATGCAATT  | 900 |

|    |            |            |             |             |             |            |      |
|----|------------|------------|-------------|-------------|-------------|------------|------|
|    | ACTAGAAGTG | GATATTTAGT | TATCACGAGT  | GATAAAGGTT  | TAGCAGGTGC  | ATATAGTGCA | 1020 |
|    | AACGTGCTTA | AAAAATTGAT | TACTGATATT  | GAAGCGAAAC  | ATCAAGATAG  | TAGCGAATAC | 1080 |
| 5  | AGTATTGTAG | TTTtagggca | ACAAGGTGTT  | GATTTCTTAA  | AAAATAGAGG  | TTATGACATT | 1140 |
|    | GAGTATTCTC | AAGTAGACGT | ACCTGATCAA  | CCTTCTTTCA  | AATCTGTTCA  | AGCACTAGCT | 1200 |
|    | AACCATGCTA | TAGACTTATA | CAGTGAAGAA  | GAAATTGATG  | AATTAAATAT  | ATACTATAGT | 1260 |
| 10 | CATTATGTCA | GCGTTCCTGA | AAACAAGCCT  | ACATCTAGAC  | AAGTATTACC  | ATTATCTCAA | 1320 |
|    | GAGGATTCTA | GTAAGGGGCA | TGGTCATTTG  | TCTTCTTATG  | AATTTGAGCC  | AGATAAAGAA | 1380 |
|    | TCTATCTTAA | GTGTAATCTT | GCCTCAATAT  | GTTGAGAGTT  | TGATTTACGG  | AACAATATTA | 1440 |
| 15 | GACGCAAAAG | CAAGTGAGCA | TGCAACACGT  | ATGACTGCGA  | TGAAAAATGC  | CACTGATAAT | 1500 |
|    | GCAACTGAAC | TTATTGATGA | CTTATCATTa  | GAATATAACA  | GAGCGAGACA  | AGCAGAAATT | 1560 |
| 20 | ACGCAACAAA | TTACTGAAAT | TGTTGGTGGT  | TCCGCAGCGC  | TTGAATAATA  | TTTAAAGGAG | 1620 |
|    | GAAAATAGCA | TGGGAATTGG | CCGTGTAACT  | CAAGTTATGG  | GTCCTGTAAT  | TGATGTTGGA | 1680 |
|    | TTTGAACATA | ACGAAGTTCC | TAAAAATTAAT | AACGCCTTGG  | TTATTGATGT  | GCCTAAAGAA | 1740 |
| 25 | GAAGGTACAA | TACAACtaac | ATTAGAAGTT  | GCGCTGCAAT  | TAGGTGACGA  | CGTTGTTCTG | 1800 |
|    | ACAATTGCGA | TGGATTCAAC | TGATGGTGTC  | CAAAGAGGCA  | TGGATGTAAA  | AGATACAGGC | 1860 |
|    | AAAGAAATTA | GTGTACCTGT | TGGTGACGAA  | ACATTAGGTC  | GTGTATTTAA  | TGTACTAGGT | 1920 |
| 30 | GAAACAATTG | ACCTTAAAGA | AGAAATTAGT  | GATTCTGTTC  | GCCGCGATCC  | TATCCATCGT | 1980 |
|    | CAAGCACCAG | CATTCGATGA | ACTTTCAACA  | GAAGTTCAAA  | TTTTAGAAAC  | AGGTATTAAA | 2040 |
|    | GTAGTAGATT | TACTAGCACC | TTATATTAAA  | GGTGGTAAAA  | TCGGATTGTT  | CGGTGGTGCC | 2100 |
| 35 | GGTGTAGGTA | AAACAGTATT | AATCCAAGAA  | TTAATTAAACA | ACATCGCTCA  | AGAGCACGGT | 2160 |
|    | GGTATTTCTG | TATTCGCCCG | TGTAGGTGAA  | CGTACTCGTG  | AAGGTAAACGA | TTTATACTTC | 2220 |
|    | GAAATGAGTG | ACAGTGGTGT | AATTAAGAAA  | ACAGCCATGG  | TATTCGGGCA  | AATGAATGAG | 2280 |
| 40 | CCACCTGGTG | CACGTATGCG | TGTTGCATTA  | TCTGGTTTAA  | CAATGGCTGA  | ATATTTCCGT | 2340 |
|    | GACGAACAAG | GTCAAGACGT | ATTATTATTC  | ATCGATAACA  | TTTTCAGATT  | TACACAAGCT | 2400 |
| 45 | GGTTCTGAGG | TATCTGCATT | ATTAGGTCGT  | ATGCCTTCTG  | CAGTAGGTTA  | CCAACCAACA | 2460 |
|    | CTTGCTACTG | AAATGGGACA | ATTACAAGAA  | CGTATTACGT  | CTACAACAAA  | AGGATCAGTT | 2520 |
|    | ACTTCTATTC | AAGCGGTATT | CGTACCTGCC  | GATGACTATA  | CTGACCCAGC  | GCCTGCGACA | 2580 |
| 50 | GCGTTTGCCC | ATTTAGATGC | AACTACAAAC  | TTAGAACGTA  | AATTAAGTGA  | AATGGGTATT | 2640 |
|    | TATCCAGCCG | TGGATCCATT | AGCGTCTACA  | TCAAGAGCAT  | TGGAACCATC  | AATTGTAGGT | 2700 |

|    |   |      |
|----|---|------|
|    | CAAGATATCA TTGCTATCTT AGGTATGGAC GAATTATCTG ATGAAGATAA ACAAACAGTT   | 2820 |
|    | GAACGCGCAC GTAGAATTCA ATTCTTCTTA TCTCAAAACT TCCACGTAGC GGAACAATTT   | 2880 |
| 5  | ACTGGTCAAA AAGGTTCTTA TGTACCTGTT AAGACAACAG TTGCAAACTT TAAAGATATC   | 2940 |
|    | TTAGATGGTA AATATGACCA TATTCCAGAA GATGCATTCC GTTTAGTTGG TAGCATGGAT   | 3000 |
|    | GATGTTATTG CAAAAGCTAA AGATATGGGT GTTGAAGTAT AACCAATTAGG AGGAATGGAT  | 3060 |
| 10 | AATGAATACA TTAAACCTAG ATATTGTCAC TCCTAATGGT TCTGTTTACA ATCGTGATAA   | 3120 |
|    | TGTTGAACTC GTTGTATATGC AAACAACAGC TGGTGAGATA GGTGTCATGA GTGGACATAT  | 3180 |
|    | TCCAACCTGTA GCTGCTTTAA AAACAGGCTT TGTAAGAGTG AAATTTACAG ATGGAACCTGA | 3240 |
| 15 | ATATATTGCT GTAAGCGATG GCTTTGTTGA AGTTAGAAAA GATAAAGTTT CAATCATTGT   | 3300 |
|    | TCAGACTGCA GAAACTGCAA GAGAAATTGA TGTTGAAAGA GCTAAATTAG CCAAAGCAAG   | 3360 |
| 20 | AGCAGAGTCT CACTTGGAAG ATGATGACGA CAATACTGAT ATTCATAGAG CCGAAAGAGC   | 3420 |
|    | TTTAGAGAGA GCAAATAACC GTTTGCGTGT GGCTGAATTA AAATAGTAAA TAAAGGGTCG   | 3480 |
|    | AAGATGTGAT TTCATATCTT CGACCCTTTT TTGAATTATA TTGATTTAAA GATACAAAAC   | 3540 |
| 25 | ATGAGAGGGG GGAAGGAATT GATAAAGAAC CATTAAAGAT TTATGATGTA GTGGTTCTTT   | 3600 |
|    | ATCATTAAAC ACAGCTAATG TGTATTTAAA AATAGGaayA CATgAGTAAA ACTCATGTAT   | 3660 |
|    | AAGAAATACT AATTTCTAAA GAAAAAGTAT TTCTTTATGT TGGGGCCCCG TCAACTACTG   | 3720 |
| 30 | CCAAATACAA CACTATAGAG TCTAGACATT GATTTATGTC CGACTCCCAA GAATAGTTTT   | 3780 |
|    | ACTTTTTTAC AATCACTAAT AGATTGCTAA AATCAAAATT TCCTTCACCA CTATCTACAG   | 3840 |
|    | TCGACATTTT ATTTTTTGAA ATTATCTACA TTTTTCATA CCAAGATATT TTATAGTTAT    | 3900 |
| 35 | GATATTTATG TAAAAAGAAT TATATAGTAA GTTAGCTTAA ACTTTACTAA AAACGGGTAT   | 3960 |
|    | TAAACTTTGT ATCAATTATT AAATTTTTCA TGTACAATGT AATACAGTAA TCTTATGAGG   | 4020 |
| 40 | TGATAAAATG GATTATATCG GACAATATGC AGTTATCCAT TTAGTGTTAC ATGTTGTATG   | 4080 |
|    | TATTTGTATT GCCTATTGGG CTTTACAATC AATTAGATTA GATCAATTTT TTAAAAAAGG   | 4140 |
|    | ATACGCCACT CAATTACAAG TGTGTATGAT ATTTGTTGCT ATTTTATTAG GCACTGCAGT   | 4200 |
| 45 | AAGCAATTTT ATTGTAGATT TGTTACAATA CTCGACGCAG GTAAAAATATT TAATAAAATA  | 4260 |
|    | AGTCTAACTC TATGATTTGT AATCAAAACT AGATATAATT AAATAATGAC TTAAAAATAAT  | 4320 |
|    | TTTAAAAATAG GGAAATGTAA AGTAATAGGA GTTCTAAGTG GAGGATTTAC GATGGATAAA  | 4380 |
| 50 | ATAGTAATCA AAGGTGGAAA TAAATTAACG GGTGAAGTTA AAGTAGAAGG TGCTAAAAAT   | 4440 |
|    | GCAGTATTAC CAATATTGAC AGCATCTTTA TTAGCTTCTG ATAAACCGAG CAAATTAGTT   | 4500 |

|    |            |            |            |             |            |             |      |
|----|------------|------------|------------|-------------|------------|-------------|------|
|    | GACGTTACAT | ACAAAAAGGA | CGAAAATGCT | GTTGTCGTTG  | ATGCAACAAA | GACTCTAAAT  | 4620 |
|    | GAAGAGGCAC | CATATGAATA | TGTTAGTAAA | ATGCGTGCAA  | GTATTTTAGT | TATGGGmCCT  | 4680 |
| 5  | CTTTTAGCAA | GACTAGGACA | TGCTATTGTT | GCATTGCCTG  | GTGGTTGTGC | AATTGGAAAGT | 4740 |
|    | AGACCGATTG | AGCAACACAT | TAAAGGTTTT | GAAGCTTTAG  | GCGCAGAAAT | TCATCTTGAA  | 4800 |
|    | AATGGTAATA | TTTATGCTAA | TGCTAAAGAT | GGATTAAAAG  | GTACATCAAT | TCATTTAGAT  | 4860 |
| 10 | TTTCCAAGTG | TAGGAGCAAC | ACAAAATATT | ATTATGGCAG  | CATCATTAGC | TAAGGGTAAG  | 4920 |
|    | ACTTTAATTG | AAAATGCAGC | TAAAGAACCT | GAAATTGTCG  | ATTTAGCAAA | CTACATTAAT  | 4980 |
| 15 | GAAATGGGTG | GTAGAATTAC | TGGTGCTGGT | ACAGACACAA  | TTACAATCAA | TGGTGTAGAA  | 5040 |
|    | TCATTACATG | GTGTAGAACA | TGCTATCATT | CCAGATAGAA  | TTGAAGCAGG | CACATTACTA  | 5100 |
|    | ATCGCTGGTG | CTATAACGCG | TGGTGATATT | TTTGACGTG   | GTGCAATCAA | AGAACATATG  | 5160 |
| 20 | GCGAGTTTAG | TCTATAAACT | AGAAGAAATG | GCGCTTGAAT  | TGGACTATCA | AGAAGATGGT  | 5220 |
|    | ATTCGTGTAC | GTGCTGAAGG | GGAATTACAA | CCTGTAGACA  | TCAAACTCT  | ACCACATCCT  | 5280 |
|    | GGATTCCTGA | CTGATATGCA | ATCACAAATG | ATGGCATTGT  | TATTAACGGC | AAATGGTCAT  | 5340 |
| 25 | AAAGTCGTAA | CCGAAACTGT | TTTTGAAAAC | CGTTTATGTC  | ATGTTGCAGA | GTTCAAACGT  | 5400 |
|    | ATGAATGCTA | ATATCAATGT | AGAAGGTCGT | aGTGCTAAAC  | TTGAAGGTAA | AAGTCAATTG  | 5460 |
|    | CAAGGTGCAC | AAGTTAAAGC | GACTGATTTA | AGaGCAGCAG  | CCGCCTTAAT | TTTAGCTGGA  | 5520 |
| 30 | TTAGTTGCTG | ATGGTAAnAC | AAGCGTTACT | GAATTAACGC  | ACCTAGATAG | AGGCTATGTT  | 5580 |
|    | GACTTACACG | GTAAATTGAA | GCAATTAGGT | GCAGACATTG  | AACGTATTAA | CGATTAAATTC | 5640 |
|    | AGTAAATTAA | TATAATGGAG | GATTTCAACC | ATGGAAACAA  | TTTTTGATTA | TAACCAAATT  | 5700 |
| 35 | AAACAAATTA | TACCTCACAG | ACAGCCATTT | TTATTAATTG  | ATAAAGTAGT | TGAATATGAA  | 5760 |
|    | GAAGGTCAAC | GTTGTGTGGC | TATTAAACAA | GTATCAGGAA  | ACGAACCATT | CTTCAAGGG   | 5820 |
| 40 | CATTTTCCTG | AGTATGcGGT | AATGCCAGGC | GTATTAATTA  | CTGAAGCGTT | AcTCAAACAG  | 5880 |
|    | GTGCGGTAGC | TATTTTAAAT | AGTGAAGAAA | ATAAAGGTAA  | AATCGCTTTA | TTTGCTGGTA  | 5940 |
|    | TTGATAAATG | TCGTTTTAAA | CGTCAAGTAG | TACCTGGTGA  | TACTTTAACG | TTGGAAGTAG  | 6000 |
| 45 | AAATCACTAA | AATTAAAGGA | CCAATAGGTA | AAGGTAATGC  | TAAAGCTACT | GTCGATGGTC  | 6060 |
|    | AACTTGCTTG | TAGTTGTGAA | CTTACATTTG | CAATTCAAGA  | TGTAAATAA  | AACAAAAAAA  | 6120 |
|    | ACATTCAAAG | ATTTAATGTG | TTGGCATAAT | CTTTGAATGT  | TTTTTATTTT | ACTCTTCTAA  | 6180 |
| 50 | TTTTTCATCC | TTTAACTTTG | GTTTAGACTG | CaTCATT CGA | TTAAATGATT | TTTTTAATTC  | 6240 |
|    | TTCACCAGAT | AATCCATCAT | CAATAAGTTG | GTTCTAATAA  | ACTTTCAGCA | TACTGTTGGA  | 6300 |

## (2) INFORMATION FOR SEQ ID NO: 481:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1717 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 481:

|  |  |      |
|--|--|------|
|  | AGTTGCTACA CCAGACATGA TGGGTGAAGT TGGTAAATTA GGTCGTGTAT TAGGACCAAAA | 60   |
|  | AGGTTTAATG CCAAACCCTA AAAGTGAAC TGTAACAATG GATGTTAAAA AAGCTGTTGA   | 120  |
|  | AGAAATCAAAA GCTGGTAAAG TAGAATATCG TGCTGAAAAA GCTGGTATCG TACATGCATC | 180  |
|  | AATTGGTAAA GTTTCATTTA CTGATGAACA ATTAATtGAA AACyTCaATA CyTTACAAGA  | 240  |
|  | TGTATTAGCT AAAGCTAAAC CATCATCTGC TAAAGGTACA TACTTCAAAT CTGTTGCTGT  | 300  |
|  | AACTACAACA ATGGGTCCTG GAGTTAAAAAT TGATACTGCA AGTTTCAAAT AATAAATGAT | 360  |
|  | ATAACAATT ACAGGCTGAA AGAAATATCT TTCAGTCTGT AAAAATATAT TGACAATAAG   | 420  |
|  | TAATTTCCAA GTTATATTAC TTATTGTGAT TATTTTACCT AAGACAGTAG GAGTTATTTA  | 480  |
|  | TAACTTAAAA TTTATCCTGC CGAGGCTAAA ATTGACTTGA ACGTGATGAT CTATGATCTT  | 540  |
|  | TCAAGCACTT TTTGCCGTGG GTAGAAAGTG CTTTTTTTAT TAATTTTAAA AAAAGCACCA  | 600  |
|  | AAAATTTAAA TGGAGGTGTC TGAATGCTG CTATCATTGA AGCTAAAAAA CAACTAGTTG   | 660  |
|  | ATGAAATTGC TGAGGTACTA TCAAATTCAG TTTCAACAGT AATCGTTGAC TACCGTGGAT  | 720  |
|  | TAACAGTAGC TGAAGTTACT GACTTACGTT CACAATTACG TGAAGCTGGT GTTGAGTATA  | 780  |
|  | AAGTATACAA AAACACTATG GTACGTCGTG CAGCTGAAAA AGCTGGTATC GAAGGCTTAG  | 840  |
|  | ATGAATTCTT AACAGGTCCT ACTGCTATTG CAACTTCAAG TGAAGATGCT GTAGCTGCAG  | 900  |
|  | CGAAAGTAAT TTCTGGATTT GCTAAAGATC ATGAAGCATT AGAAATTTAA TCAGGCGTTA  | 960  |
|  | TGGAAGGCAA TGTTATTACA GCAGAAGAAG TAAAACTGT TGGTTCATTA CCTTCACACG   | 1020 |
|  | ATGGTCTTGT ATCTATGCTT TTATCAGTAT TACAAGCTCC TGTACGCAAC TTCGCTTATG  | 1080 |
|  | CGGTTAAAGC TATTGGAGAA CAAAAAGAAG AAAACGCTGA ATAATTTTTA GCGTAAAAAA  | 1140 |
|  | ATTAAAAATA ATGGAGGAAT TATAAATGG CTAATCATGA ACAAATCATT GAAGCGATTA   | 1200 |
|  | AAGAAATGTC AGTATTAGAA TTAAACGACT TAGTAAAAGC AATTGAAGAA GAATTTGGTG  | 1260 |
|  | TAcTGcAGCT GCTCCAGTAG CAGTAGCAGG TGCAGCTGGT GGCGCTGACG CTGCAGCAGA  | 1320 |
|  | AAAAACTGAA TTTGACGTTG AGTTAACTTC AGCTGGTTCA TCTAAAATCA AAGTTGTTAA  | 1380 |

TCCTAAAGTA ATCAAAGAAG CTTTACCTAA AGAAGAAGCT GAAAAACTTA AAGAACAATT 1500  
 AGAAGAAGTT GGAGCTACTG TAGAATTAAA ATAATTCAAG TATCTTAAAC TTAATAATCA 1560  
 5 AAGTTTTATA GCAAGTATTG CTATAATATA ATGATTCTTT GAGAAGTTAA AACCCCGTTA 1620  
 TTTTGATAAC GGGgTtTTAT TCaTTTAAAG ACTGAGTGAA ATGTTATAAT TATAATGACG 1680  
 AGTTACAAAG TGAAGATGAG GTGGGAATAA TGAGTCA 1717

10 (2) INFORMATION FOR SEQ ID NO: 482:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1279 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 482:

GTAAATCTGT TACTCGAAAT GTAACGATTA AAGAAAAGCG CTCATCTCAA ACATATATTT 60  
 TGTTAGGCTA TCCAACAAAA GCACAGAAGA ATAGTCATAG CAAATATAGT GGAGTCTTTA 120  
 25 TATATAAAGA CTTGAAATCA ATCGAAGATA CAAATAATGC TATTACGATT ATCACCATAA 180  
 TTACGGCTGT TATTTTCTTA ACAATTACAA CAGTCTTTGC GTTTTTCTTA TCGTCAAGAA 240  
 TTACAAAACC TTTAAGACGT TTAAGAGACC AAGCTACACG TGTATCTGAA GGGGATTACT 300  
 30 CTTATAAACC TTCTGTCACA ACGAAAGATG AAATTGGTCA ATTATCGCAG GCATTTAATC 360  
 AGATGAGTAC AGAAATCGAA GAGCATGTCG ACGCATTATC CACATCTAAA AATATTAGAG 420  
 ACAGCTTAAT TAACTCTATG GTAGAAGGTG TCCTAGGTAT TAATGAGAGT CGACaAATTA 480  
 35 TCTTATCTAA TAAGATGGCG AATGATATTA TGGACAATAT TGATGAAGAT GCTAAAGCTT 540  
 TCTTATTAAG ACAAATAGAA GATACTTTTA AATCAAAAACA AACTGAAATG CGCGATTTAG 600  
 AAaTGAATGC ACGATTCTTT GTTGTGACCA CAAGCTATAT CGACAAGATT GAACAGGGAG 660  
 40 GTAAaAGTGG TGTGTGTGTG ACAGTTCGTG ATATGACTAA TGAGCACAAT CTAGATCAAA 720  
 TGAAGAAAGA TTTcATTGCT AATGTATCAC ATGAATTACG TACACCGATA TCATTACTTC 780  
 45 AAGGTTATAC TGAATCAATT GTAGATGGTA TTGTTACAGA ACCGGATGAA ATAAAAGAAT 840  
 CGCTTGCCAT TGTCCTTGAT GAATCGAAAC GTTTAAATCG TTTAGTTAAT GAATTGTTAA 900  
 A1GTCGCACG CATGGATGCT GAAGGGTTAT CCGTAAATAA AGAAGTTCAG CCTATTGCAG 960  
 50 CGTTACTAGA TAAGATGAAA ATTAAGTATC GCCAACAAGC TGATGATTTA GGTCTAAATA 1020  
 TGACTTTTAA TTAyTGTAAG AAGCGTGTTT GGAGTTATGA TAwGGATCGC ATGGACCAAG 1080

TTACTTGTGA TGAAAATGAA AGCGAAGATA TTTTATACAT TAAAGATACA GGTACAGGCA 1200  
 TTGCACCAGA ACATTTACmA CAAGTATTTg ATCGTTTTTA TAAAGTTGAT GCAGCGnAnA 1260  
 5 ACCCCGnGGT AACCAngTA 1279

(2) INFORMATION FOR SEQ ID NO: 483:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1144 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 483:

GAGCTGTTGT TACTTTGATG CCTGCAGCTT TATTACGGCT GACTTGGTAA TGATAAGTTT 60  
 20 CAGCATATTG CTCAATATAT GCTATATCAT ATTGAATGGT ACGAGGTGAT ACACCAAGTT 120  
 GATTAGCAAT GGTATTGATT GGAATAAACG TTTGCTCATG AATTAAAAGA TACAAAATTT 180  
 CGATTTGTCT ATAACCTAAC AACGTAATAT CCTCCTATTT GTAATTGTAA GCGATTTCTT 240  
 25 AAAAACGTAG ATATGCAATC TCTTTCATAT TTTAATCCGA AAAATTGCAT ATCAAAATGT 300  
 TTATGGCGCA AGATTTTATA GGAACCTTTA AAATAAATTA rATATTCATG TTGACAATTT 360  
 AAAAATGTGCG CAGTATATTT AGTTAGACAT CTAACGAAAT GGTGGTGCAA TAAATGGAAT 420  
 30 TCACTTATTC GTATTTATTT AGAATGATTA GTCATGAGAT GAAACAAAAG GCTGATCAAA 480  
 AGTTAGAGCA ATTTGATATT ACAAATGAGC AAGGTCATAC GTTAGGTTAT CTTTATGCAC 540  
 ATCAACAAGA TGGACTGACA CAAAATGATa TTGcTAAAGC ATTACAACGA ACAGGTCCAA 600  
 35 CTGTCACTAA TTTATTAAGG AACCTTGAAC GTAAAAAGCT GATCTATCGC TATGTGATG 660  
 CACAAGATAC GAGAAGAAAG AATATAGGGC TGAACCTC TGGGATTAAA CTCGTAGAAG 720  
 CATTCACTTC GATATTTGAT GAAATGGAAC AAACACTCGT ATCGCAGTTA TCTGAAGAAG 780  
 40 AAAATGAACA AATGAAAGCA AACTTAACTA AAATGTTATC TAGTTTACAA TAAATGATAA 840  
 GTGTGACTGG TAGAAATCAG TCACTTTGTC TTTAATATTA TAGTTAGATA TCTAATTGTT 900  
 45 AGTAAGCTAA TTATTGAAA AGACAAGGAG TATTGAACAA TGAAAGACGA ACAATTATAT 960  
 TATTTTGAGA AATCGCCAGT ATTTAAAGCG ATGATGCATT TCTCATTGCC AATGATGATA 1020  
 GGGACTTTAT TAAGCGTTAT TTATGGCATA TTAAATATTT ACTTTATAGG ATTtTyAGAm 1080  
 50 GAYAGCCACA TGATTTCTGC tAatCTCTCT AACACTGCCA GTATTTGCTA TCTTAATGGG 1140  
 GTTA 1144

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1158 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 484:

```

10  ACAACCAATT TTACTAAACA TGGTrxTCAT gCATTtTCAA TATTtTAGATG TCGACCGCAT      60
    AATCGAAGAA TCGCCGACAA TAGTACTTAT CGATGAGTTA GCACATACGA ATATtTCTAG      120
    AGATCGTCAT GAGAAACGAT ATATGGATAT TGAAGAAATT TTAAATCATG GTATCGATGT      180
15  TCATACCACT TTGaACATTC aaCATATTGA AAGTTTAAGT AGTCAAATTG AACTGATGAC      240
    CGGTGTACAT GTTAAAGAAC GTGTACCCGA CTATTTCATA ATGAGCGCCG ATGTATTAGA      300
20  AGTCGTAGAT ATCTCACCTG AACAAATTAAT TAAACGCTTA AAAGCTGGCA AGGTATATaa      360
    AAAGGATAGG CTAGATGTAG CATTtTAGTAA TtTCTTTACG TATGCCCACC TAAGCGAAtG      420
    CGTACATTGA CGTTAAGAAC AGTTGCCGAC TTGATGAGTG ATAAAGAAAA AGTCCGACAC      480
25  AACCATAAAA CGTCACTCAA ACCTCATATT GCTGTGGCAA TTAGTGGGAG CATTtTATAAT      540
    GAAGCAGTAA TTAAAGAGGC ATTCCATATT GCTCAAAAAG AACATGCGAa GTTCACTGCT      600
    ATTTATATAG ATGTATTCGA AAAAAACAGG CAATATAAAG ATAGTCAAAA GCAAGTGCAT      660
30  CAACATCTCA TGCTTGCAAA ATCATTAGGA GCAAAAGTAA AAGTAGTTTA TAGCCAAACC      720
    GTTGcATTAG GATTAGACGA ATGGTGTAaa AATCAAGATG TAACCAAATT AATTATCGGA      780
    CAACATATTA GAAATAAGTG GCGAGACTTT TtCAATACAC CTTTAATTGA CCATTtTAATG      840
35  TCCTTTGAAC ATAGCTATAA AATCGAAATC GTTCCAATCA AACAAATACC TGTTGAATTG      900
    AAAATGAACA AATCACCTTA TCGTCCTAAA GGCAAACGTT TCGCCATAGA TATGTtAAAA      960
    ATGATTtTGA TTCAAATAAT TTGTGTAATG ATGGGACTGT GGATTtTATCA ACTTGATAAG      1020
40  CATGAGTCTA GTACGATTAT TTTAATGATT TTTCTCATCG GCATCATTTT ATTATCCATT      1080
    TGGACGCGGT CCTTCATCAT TGGCTTTTaG CAGCAATTAt TAACGTATTT GTgTkTAATT      1140
45  ATkTTTTtAC GGAACCTA                                1158
  
```

## (2) INFORMATION FOR SEQ ID NO: 485:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2224 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 485:

|    |  |      |
|----|--|------|
|    | ATCATATGGT CGATTTAACA GATCCAACGT ACTGCTAAAAT AATTACATGA CGTTTAAACA | 60   |
| 5  | TAGCATTGAT TATAACTATT TCTAAGTCTT CGCATTATTT GCGATGATGT GGAATAGTT   | 120  |
|    | ATTTTTATTT AAAAATATAA AAAAATAGAT GCAGCAAAAT TTAAAGCAT TTTATTTTGA   | 180  |
|    | ACATATTAAA AGGGAGCGTA TCATAATGGA ATGTAATGTT TATATCGTAT GCATTACGGA  | 240  |
| 10 | TAAATAATAT ATAAATCATT CTTGAGGAGT GAAAGAATAA TGAGAGACTA CACAAAGCAA  | 300  |
|    | TACATTAATG GCGAATGGGT AGAAAGTAAT AGTAATGAAA CGATAGAAGT TATAAATCCA  | 360  |
|    | GCAACCGAAG AAGTAATCGG GAAAGTTGCT AAAGGTAATA AAGCTGATGT TGATAAAGCC  | 420  |
| 15 | GTCGAGGCGG CAGACGATGT TTATTTAGAG TTCCGTCATA CATCTGTGAA AGAAAGACAA  | 480  |
|    | GCGTTATTAG ATAAAATTGT AAAAGAmTAT GAAAACAGAA AAGACGATAT TGTACAAGCT  | 540  |
|    | ATTACGGATG AATTAGGTGC TCCTTTATCA TTATCTGAGC GTGTCCATTA TCAAATGGGA  | 600  |
| 20 | CTAAACCATT TTGTTGCAGC GAGAGACGCA TTAGATAACT ACGAATTTGA AGAACGCCGC  | 660  |
|    | GGAGATGATT TAGTTGTAA AGAAGCAATC GGTGTATCTG GATTAATTAC ACCGTGGAAC   | 720  |
| 25 | TTCCCTACAA ACCAAACATC ATTAAAATTA GCAGCAGCAT TTGCGGCTGG TAGTCCAGTT  | 780  |
|    | GTACTTAAAC CATCTGAAGA AACACCATTT GCAGCTGTTA TTTTAGCTGA GATTTTGTAT  | 840  |
|    | AAAGTCGGTG TTCCTAAAGG TGTATTAAAC CTTGTAAATG GTGATGGTGC TGGTGTGGG   | 900  |
| 30 | AATCCTTTAT CTGAACATCC TAAAGTACGC ATGATGTCAT TTACAGGATC AGGCCCTACT  | 960  |
|    | GGTTCTAAAA TTATGGAAAA AGCCGCTAAA GATTTTAAAA AGGTATCATT AGAGCTTGGT  | 1020 |
|    | GGCAAATCAC CATATATCGT CCTAGATGAC GTAGATATTA AAGAAGCGGc TAAAGCAaCa  | 1080 |
| 35 | aCAGGCAAAG TTGTTAATAA TACTGGTCAA GTATGTACAG CTGGTACACG TGTTTTAGTG  | 1140 |
|    | CCTAACAAAA TTAAAGATGC ATTCTTAGCT GAATTAAAAG AACAATTTAG CCAAGTCCGT  | 1200 |
|    | GTCGGTAATC CAAGAGAAGA TGGTACACAA GTAGGCCCTA TCATTAGTAA AAAACAATTT  | 1260 |
| 40 | GATCAAGTAC AAAATTATAT TAATAAAGGT ATTGAAGAAG GTGCTGAATT ATTTTATGGT  | 1320 |
|    | GGTCCTGGTA AACCAGAAGG ACTTGAAAAA GGATACTTTG CACGTCCGAC AATTTTTATT  | 1380 |
| 45 | AATGTAGATA ATCAAATGAC GATAGCACAA GAwGAAATTT TTGGGCCAGT AATGTCAGTT  | 1440 |
|    | ATCACTTATA ACGATTTAGA TGAAGCGATT CAAATTGCAA ATGATACAAA ATATGGTTTG  | 1500 |
|    | GCAGGATATG TTATTGGTAA GGACAAAGAA ACATTGCATA AAGTAGCTCG TTCTATTGAA  | 1560 |
| 50 | GCAGGTACAG TAGAAATAAA CGAAGCAGGT AGAAAGCCAG ATTTACCATT TGGTGGCTAT  | 1620 |
|    | AAACAATCTG GTTTAGGTCG TGAATGGGGC GATTATGGTA TTGAAGAGTT CTTAGAAGTG  | 1680 |

|    |  |      |
|----|--|------|
|    | AGTGCACATG ACTAATTAAG TTTTGTGTAC TGTMTTAATT TTGCAATTTT TATAAATAGA  | 1800 |
|    | TTTTGTAATT AAAATAAAAA TTTGCTATAG TTATTCATGT ATTTAAAAGG TTGGGGATTA  | 1860 |
| 5  | GCATAATGGG ATTGTGCTAG CACAGTTATT TATGCATTGT CATGCCTATC TATTACTTAC  | 1920 |
|    | TAACTAAAAA ATAATGAAAT GGGTGTAAC TATATGCCTG AAAGAGAACG TACATCTCCT   | 1980 |
|    | CAGTATGAAT CATTCCACGA ATTGTACAAG AACTATACTA CCAAGGAACT CACTCAnAAA  | 2040 |
| 10 | GCTAAAACTC TTAAGTTGAC GAACTATAGT AAATTAAATn AAAAAGAAGT TGTTCCTAGCT | 2100 |
|    | ATTATGGAAG CACAAATGGA nAAAGATGGT AACTATTATA TGGAAGGTAT CTTAGATGAT  | 2160 |
|    | ATACAACCAG ATGGTTATGG TTTTTTAAGA ACAGTGAAGT ATTCTAAAGG GGAAAAAGAT  | 2220 |
| 15 | ATTT   | 2224 |

(2) INFORMATION FOR SEQ ID NO: 486:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1690 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 486:

|    |   |     |
|----|---|-----|
|    | ACATTACnTT GAATCGAAAG TTTCATAAAC GACTTGAATG CCAGTTTCTT TTTCAAATTT | 60  |
| 30 | CTTAATTAAC TCTGGATCAA TATATTCGCC CCAATTGTAT ACGTAAATTT TTTGATTTGT | 120 |
|    | ATGCACTTGT TCTTTAGATT TAAACCAATG ACTTAAAGTA AGACAAAGCA TACCCACAAC | 180 |
|    | TAATGCACCT ATAATGAGTT GTAAAAATCG TTTCATTATT TTACACCTCG CTTGATTAGT | 240 |
| 35 | TTTTTCTTAT TTATCACGTA TTGAATCAAA TAATATCCTA GTATTCCTAA TACAATAACA | 300 |
|    | GCAAACAATA ATGTTGAAAT CGCATTAAAT TCCATACTAA TTCCTTTTCT CGCCATAGCA | 360 |
|    | TAAACTTCAA CTGATAACAC ACTAAAGCCA TTACCAGTAA CGAAGAACT TACTGTGAAA  | 420 |
| 40 | TCGTCTAGTG AATAAGTTAA AGCCATAAAG AATCCTCCTA TAATAGAAGG TAAAATATTA | 480 |
|    | GGAATAATAA TGTTGCTTAA TAATTGTGGT TCAGTCGCTC CTAAATCTCT TGCAGCATTT | 540 |
|    | AACATATTAT TATTCATyTC ATACAGTTGT GGTAAGACGA TAATCACAAC TATAGGTATG | 600 |
| 45 | CAAAATGCAA TATGAGATAT TAGAACTGTC CaAAAkCCTA AACCAAGACC AGTAAATGG  | 660 |
|    | CCAATCGTTG TAAACATAAT TAAGAATGAT GCACCTATGA CAACGTCGGA TGATACCATC | 720 |
| 50 | AAGACATTAT TCAATGTTAG TAAAGTTACT TTAACTTTT TATTTCTTAA ATAATAAATA  | 780 |
|    | GCAATGGCAC CAAATGTACC AATAACTGTA GAAATTGAGG CTGCTAAAAG TGCTACAGCT | 840 |

|    |  |      |
|----|--|------|
|    | AATGTAAAAT GTTCAAAGTG AATCATATTA CCAGCCGAAT TGAATGAATA GAACATTAAA  | 960  |
|    | AAGAATATTG GGATGTATAA AATCGCTAAA AGTATCCCGA TATACAGCTT TCCATACCAT  | 1020 |
| 5  | TTCATATGAT TCACCCTCTC CCATTAGATG ATTTTGTAAAT GATTAAAATG AATGCCATAA | 1080 |
|    | ATACAATTAA GAATATAGCT ATAGTTGATC CCATACCATA ATTTTGAATT GTTAAAAATT  | 1140 |
|    | GTTCTCTAT TGCCGTACCT ATATTTATGA CTTTATTACC TGCAATTAAT CTTGTAATCA   | 1200 |
| 10 | TAAATAATGA AAGTGATGGA ATAAAGGTTA CTTGAATCCC AGTCATAACA CCTTCTTTTG  | 1260 |
|    | TTAACGGCAT GATTACTTTT CTAAAAGTAT AGAAAGGACT GGCACCTAAA TCACCTGAGG  | 1320 |
|    | CCTGCAATAA ATTATTAGGA ATTGCTTTCA TGCTATTAAA TATAGGTAAA ATCATAAATG  | 1380 |
| 15 | GTATATAAAT GTAACCTGCC ACTACTAAAA ACGCACCAGT TGTAATAAAC AAATTGAATG  | 1440 |
|    | ATGGTAAATT AAATAAGTGG AAAATTGATT AATCACGCCA TCATGACTTA ATAAACCTAT  | 1500 |
|    | AAAAGCATAT GTCTTTAACA ATAAATTTAT CCATGTTGGA ATAATCATT TCAATTAATA   | 1560 |
| 20 | GATATTTTGA AATTTGCAAC GAGTAATATA ATAGGCAGnT GGATAACTGA TAGTCAAGGT  | 1620 |
|    | AATAATTGTT ATTGAAGCGG CATATAAAAT TGAATATGCA AACATTTTCA AATATTTTGT  | 1680 |
| 25 | AGTAAAAATT   | 1690 |

## (2) INFORMATION FOR SEQ ID NO: 487:

## (i) SEQUENCE CHARACTERISTICS:

|    |                             |
|----|-----------------------------|
| 30 | (A) LENGTH: 2112 base pairs |
|    | (B) TYPE: nucleic acid      |
|    | (C) STRANDEDNESS: double    |
|    | (D) TOPOLOGY: linear        |

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487:

|    |  |     |
|----|--|-----|
|    | ACGAAAAGAA ATATTATGAT GAACAAAAAG AAAGAATAAC GATTTATATG AAGTACAATG  | 60  |
|    | TGAAAGGTTA TAAAAATATA AGCTTCGCTA ATTTTAAAGA AAACCCAATG GATGGTTATT  | 120 |
| 40 | CTATTAGTGG TTATATAAAT AAtGaTAAAA AGTTATCATT TACAGCTGGT ATAAGATCTG  | 180 |
|    | TTGATGATTT TCAATTTGAT ACCGATATTT CTTATACAGA TGAATTGGGT AGAAAATTTA  | 240 |
|    | ATAAAAATCC TAAGTCAGTT TCTGAAATAA AAAAAGAGCA AAATACGTCC AATAAATAAT  | 300 |
| 45 | TGTTTCATATT GTGATGAAAC AAAAATATAA GTCATTAGAT GAGTTTAACT ATGTTATAAA | 360 |
|    | TATTTGTAGT ATCTATAAAA ATCTCGACAC TATTAAAATG ATAAAGTGCC GAGGTTTTCT  | 420 |
| 50 | TACTTATTTA GTTAATTCAA AGTTTATGCC AGATTCATAA GAATTTGTGA CACTTTTAAT  | 480 |
|    | AGTGTAcCAT TGATTATTAC AATTTATCAA ATGGTCCTTT AGAAGGTATA AATAACAAAA  | 540 |

|    |   |      |
|----|---|------|
|    | TATTATTATG TTCAAACTT TACGCTCCAA AAAGTAAAAA GGAAGTTAAG CAATGTTTAG  | 660  |
|    | TTGCTTAaCT TCGGaTATTG AACGCATCAG TCCAATTGGA CATAGAGCCT TTTTtagTTC | 720  |
| 5  | TTGATGTTTT TCTTTAAAC CTTGCATATT TTACAAAAAG AAAAATTAGC AGTATAATTA  | 780  |
|    | AGACAACGAA AATAAGTATT TACTTATACA CCAATCCCCT CACTATTTGC GGTAGTGAGG | 840  |
|    | GGATTTTTTAT TGGTGCGGCT ATATGTCACC TATTTTGAT TGCCTCTACT TAGCCAATAA | 900  |
| 10 | GAAAAAACG CAATGGCACA GCCACTGATG ACTGGTGCTA TGATGTGAAC GaAAATAAGC  | 960  |
|    | ATCACCTTAT ACACCTCCTC TCTGCGTCTA AATTGACGgC TGAGaGrTAG GcGACTCTAC | 1020 |
|    | TATTATATCA TCGGCAAATA TACAAGCACA GTCACTTGCT TCTGATAAGT TATATGATTC | 1080 |
| 15 | TAGCTGATAG ATTGAATCGT CTACACTTAA TTGGACAAAT TCTATGAGAA TAGATATTGT | 1140 |
|    | TAATTTAAGA AAGTAGGCGA TTTTATTATG ACAAGAGAAA GAAGATCATT TAGTTCAGAG | 1200 |
|    | TTTAAGTTAC AAATGGTTAG ATTATATAAA AATGGTAAGC CTAGGAATGA AATTATACGC | 1260 |
| 20 | GAGTATGATT TCACACCTTC GACGTTTGTA AATGGCGGTT ATAAAATGTA GGAAAATGGA | 1320 |
|    | TAAAGCAACA TCAAAACACG GGTACATTCA ATCACCAGA TAACCTATCG GATGAAGAAA  | 1380 |
| 25 | AAGAGCTGAT TAAATTACGC AAAGAAGTTC AACATTTAAA AATGGAGAAC GATATTTTAA | 1440 |
|    | AGCAAGTAGC GCTGATTATG GGGCAAAAAT AGAAGTCATT CAAAAGAATG CACATCAATA | 1500 |
|    | TTCAGTATCA GCAATGTGTA AAGTCCTGAT AATACTAAGA AGTACCTATT ATGATTCTAT | 1560 |
| 30 | AAAAAGAAAA GATAATAAAA TCACTAAAGA TGATTCAAAC ATAGAACATG CCGTCATAAA | 1620 |
|    | TATTTTTAAT TCTAATAGAA AAGTCTTTGG TACAAGACGA ATTAAAAATC ATTTAAATGA | 1680 |
|    | CAAGGGTCTC ACTGTATCTG GACAAAAGAT AGGTCGATCA TGAAAAAATC TAGTTTCTGT | 1740 |
| 35 | TTATACGAAA TCTAAATACA AAAATCATCT AAAAGAACT AATGAAAAAC GAATTAAAAA  | 1800 |
|    | TCTTTATTAT TAGCTGCTGG TGTATTATTT GTTAGTCCAA TTTCATTATC TTATAATTCA | 1860 |
|    | GATGTAGCTC ATGCTGAAGA TAAGTTAGAC CATTCTCAAG CAAAGGTAAT ATATTTGAGT | 1920 |
| 40 | AACCAAAATT TATTTGATGA ACTTGAGAAA AAAGGTTATA AACTGGAAGA TATATTTACA | 1980 |
|    | AAAGAAGAAA TAAAAAATA TAAAGCTGAA GACCAATTGA GAGCGGGTAA AACTCAATAT  | 2040 |
|    | GTAGAAACAG GTAAAGATAC TGCAACATTA TATCTTTCTT CTGCATATAC AAAACAATA  | 2100 |
| 45 | GCTGCTTTAG GT   | 2112 |

(2) INFORMATION FOR SEQ ID NO: 488:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 454 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 488:

5 GTAGGCACAC ATCTGCCATA TAAACATTCT TTTATACTAG TGTTCTCATA TAGTGTAGAG 60  
 TTATAGTCTC CTTCTTGAAT CTCGAATAAT TCAATCAACC TATCAACCTT AGTCTCTTCC 120  
 GTTACTTCTT TTTCAATATC AACTATGAAG GGGATATCAA TTGGAATAAA ACTTGACGTC 180  
 10 GAACACTTAT TTGTATTTGG ATGAAAACGA ACGAATCCAT CACTAAATCC TGTTGAAAAA 240  
 AATATTTTTTC CTTGTGATAG ATCCGGATTT TCTCGCGCCC ATTTAATTAA TTCATCTAAT 300  
 CTCATTTCTT TTTTAACTTT GATTTTTCATT GTTATATCTC CTCTTGAACA GTAAATTTAT 360  
 15 CGTTAAATGA TACGTATCCA GTCACATTAC ATAAGATGCT ATCAACATCA AAAGTCACAC 420  
 AACAGTTGCG TTCAACATCA TTTGAATAGA ATCT 454

## (2) INFORMATION FOR SEQ ID NO: 489:

- 20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1372 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 489:

30 TTGTCAGAAT TAGAATGCTT TTGAGTTACT TCATAATACT CATCAGTTTT TTGTGTATCC 60  
 TTTTGACTTT TATTTATTTT TTTCCACTTA CCAGTATGAC TTTCTTTTTT TACAGTTATT 120  
 TTCGGTTTGT TTAAAAAATG ATAACCGATG TTCTTTTGG TATCTGTGGA CTCTAAAAAG 180  
 35 ACTGAATTGT TTTCCTGATT ATCAGAATTG GTTGTGTTGT TATCGTCTGT ATATAACGTA 240  
 TACCCATTCTG CTTTGCGATT TTCAATCGTT GTAACGGAT TCTTTGATGA ATCAGTACTT 300  
 TTAATGCCAG TTCCTAAGAA GACAATTTTA TCGTTTAATA TGAAATATGA TTTTGTGGCA 360  
 40 GTTAAAGTTT TGTCCTGATT TTCAAAATCC ATTCCGATAC TAGCATGTTG GTCATCAACT 420  
 TTTGTTCCGC CAACAAAAGT TTTACTCGAC TTTTATCAT CCGTATCTTT TAATATTCA 480  
 TTGTCTAAAG TTGTTGTACC TGATAAACGT TTCATATCGG CTGTCACCCA GAAGTTATCA 540  
 45 TGATAGTGTT TGACATCGCT GTTATATAAA TAAGACATTC CAGCACCAGT GTGCCAACCT 600  
 TTTAAATCT CTCCGTTGAT ACTTTCATAG CGTGCTACGT TTTTCGACGT CATACTTAAA 660  
 CCAAATGCAA AGTCTAAGTC TTTGTTATGA TAGGTGACAC GATCCATGTC ATTATATATT 720  
 50 TTAAGTTGTT GTGTTAATCC GTTTTTAGAA ATACTGTTAT CTGTCATTAA AGACTTCATT 780

ACTGAAGATT TGACAATCTT TTTATACTTA GCTTTTGTG AATCATCCAT GGCATCACTT 900  
 AATCTCAACA ATGATTTTCAT TACTGTTGCA GATGCTGAGT GACTGGTTTC ATTTTCACGA 960  
 5 CTGATAGCTC TACCTCGTGA TAAATCCATC ATTTACCTT TATAAATGAG TGGCATAAAT 1020  
 CCGTCGTCAA TCCATGACTT TAAGGTTGTA TCATTTTGGG TTTTATCATT AAAAGGTGTT 1080  
 TCTTTTATCA TCGGCATCAT TTGAGAAATC CCCTCTAAGA GTACAACGCC ATAAGCACCA 1140  
 10 GTGTATGGAA CGTCTTGATG ATCAATGTAA GAGCCATCTT TATAAAATCC ATTACGTTCT 1200  
 TTACCAGTGG CAGAATCTTG AACGTAAGTG AAGACTTTAT TAAATGAATC TATAGACTTT 1260  
 TTCATCATAT CTTTATCTTC TTCGATAATA CATTCTAAAA GTTTCACCTT AGAAATGTCT 1320  
 15 ACTAnATTTT CGCCTTTAGC AAGTTCAGnT TTTCTACAC AAGATAATAT TT 1372

(2) INFORMATION FOR SEQ ID NO: 490:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 564 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 490:

ACAACAATAT AGTAAAGCGT CGTTAATTAA ACAATGGGAC CAATTTGTTC GTCTTATATA 60  
 30 AATGTACTTT aCCTTTATTT TTACAAAAAT AGCATTTTCC TATGTCATTT AACTAAACAT 120  
 GTAAGTTCGT ATGAACGAGG TTTGTAAAT AGATGATTCT AGGAAAATGC TTTTTTCTTT 180  
 TGACTTAGTT TAAAAATATT TGCCACTTTG TACTGATAGT AGTTGCATTG TACTGTTGTG 240  
 35 CAGATTCTAT GCTATTAATT GAAAACGTGTT GCAATTTTGT AGTATTATTT AGTAATTGGT 300  
 CGACCTTTTC AACCATTTGA TTGATGTCAC CTTGAGGTAC TAAATAGCCA TTAAATCCAT 360  
 CTTGaATCAG TTCTGaTGGa CCATAATCTA CATCATAACT GATCACTGGT GTACCTACTG 420  
 40 AAAGCGACTC TAAAATTGCT AAGCCAAAAC CTTCCATTTT ACTGTGCGAT AACATCAGTT 480  
 CTGCTTTAGC AATCTCTTCA TTAATATGCG TCTTAAACC ATGAAATTTA ACATGTTCCA 540  
 GATATnATGA TAATCTTCTA CAAG 564

(2) INFORMATION FOR SEQ ID NO: 491:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1277 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 491:

5 TATCCACCCC ACGAnAGCCC CGGAAACTTA TTGTGTTACA AGATATATAA GCAGAAACGA 60  
 ACAACAGTTA ACAAATAAA TGAAATTAAA CGTTTTAAAA ATGAAACAAA TGAAATCATC 120  
 TATTAGGTTA TGAAACTGTT TATAGCTTGA ATAGAAGCAT TTATTTTSTA GGAGGACAAT 180  
 TATTATGCGT CAAACATTTA TGGCAAATGA ATCAAACATT GAGCGCAAAT GGTATGTTAT 240  
 10 CGATGCTGAA GGCCAAACAT TAGGTCGTTT ATCATCAGAA GTAGCATCTA TCTTACGCGG 300  
 TAAAAATAAA GTAACCTTACA CACCACACGT TGATACTGGT GATTATGTAA TCGTTATTAA 360  
 TGCATCAAAA ATCGAATTTA CTGGTAACAA AGAAACTGAC AAAGTTTACT ACCGTCCTC 420  
 15 AAATCACCCA GGTGGTATCA AATCAATCAC TGCTGGTGAA TTAAGAAGAA CTAACCCAGA 480  
 ACGTTTAATT GAAAACTCAA TTAAAGGTAT GTTACCAAGC ACTCGTTTAG GCGAAAAACA 540  
 AGGTAAAAAA TTATTTGTAT ATGGTGGCGC TGAACATCCA CACGCTGCAC AACCAACCAGA 600  
 20 AAATAACGAA TTACGTGGTT AATTAGAAGG AGGAAATGAC TTTGGCACAA GTTGAATATA 660  
 GAGGCACAGG CCGTCGTAAA AACTCwGtAG CACGTGTACG TTTaGTACCa GGTGAAGGTA 720  
 ACATCACAGT TAATAACCGT GACGTACGCG AATACTTACC ATTCGAATCA TTAATTTTAG 780  
 25 ACTTAAACCA ACCATTTGAT GTAACGTAAa CTAAAGGTAA CTATGATGTT TTAGTTAACG 840  
 TTCATGGTGG TGnTTCACTG GACAAGCTCA AGCTATCCGT CACGGAATCG CTCGTGCATT 900  
 30 ATTAGAAGCA GATCCTGAAT ACAGAGGTTT TTTAAACGC GCTGGATTAC TTAATCTGTA 960  
 CCCACGTATG AAAGAACATA AAAAACCAGG TCTTAAAGCA GCTCGTCGTT CACCTCAATT 1020  
 CTCAAAACGT TAATTGTGCG ACGATATATA CAAAACACCT CGATATTATG TCGAGGTGTT 1080  
 35 TTTTGGCGT TTTTGGCGG AATATGGAAT GTGTAGAATA TAAATGAATT TTTACCTTCC 1140  
 CACCATAAAA GATGAAGAAC CATGAATGTG GAGAACAATA AATAGTTGGA TATTCTGTTA 1200  
 TTTTTTTGGA AGTGAAGTG GATTTGGAAT ACTTTACTCn AAACGATTAA AAGGTTTAAA 1260  
 40 AAAACAACAA AnAGAAA 1277

## (2) INFORMATION FOR SEQ ID NO: 492:

## (i) SEQUENCE CHARACTERISTICS:

- 45 (A) LENGTH: 673 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 492:

TTATTGACAT TGTTTTTATC CAAAATTCAT TGTTAAGACA TTTTCTTTAT GAAATAATAA 120  
 TnATATTGAA GTATATTTTT ATTATTATTA AAAATAAATA AGGGGATACT TATGAGCACA 180  
 5 AATCAAACAT TTTTAATATT TGTTATAGCA ATTATTCTAC TTACATCTGT AATAGGAATT 240  
 GTTGGACGAT ACATGAGTCG TCAACGTCTA TTAAATCTA TGGAAACATT ATGGCAAACG 300  
 ATTTCTCCAT TAGAAGCTTT TATCAGACCG AACTCACATT TCGACTATGA GTATAAGCTC 360  
 10 TACAAGGAAA AATTTGAATC ACATTCATTA GTTGATGATA AAACCTGGTC CGACTTAAAT 420  
 ATGAATGCAA TCTTTCATAA GATGAATTAT AATTTAACAG CTATTGGTGA AATGAAGCTA 480  
 TATGCCTGTT TACGTGGAAT GCTTCAATT ACGAACAAAT CATTACTTAG TTTATTTAAT 540  
 15 GATAATGCTG AATTTAGAAA AAACGTAACA TATCATTTAG CTTTGATTGG tAAACTGTT 600  
 aTCCAACATT TCCAGACCAA ATCACACCGG kAAACGTCCA AATATATTGn TCTATGCCCG 660  
 20 GTTTACCACT ATC 673

(2) INFORMATION FOR SEQ ID NO: 493:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1240 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 493:

AAAAAAGTT AATGCTGACG GTGTATTAAC TTTTGATATT CTAGAAAATA AATATACTTA 60  
 TGAAGTTATT AACGCTATAG GGAAAAGATG GATTGTTAGT CATGTCGAAG GTGAAAACGA 120  
 35 CAAGAAAGAA TATGTAATAA CTGTCATTGA TAGGAAATCA GAAGGCGACA GACAACTGGT 180  
 TGAATGTACT GCTAGAGAGA TTCCCATAGA CAAGTTAATG ATTGATAGAA TTTATGTTAA 240  
 TGTAACAGGA TCTTTTACAG TAGAAAGATA TTTTAACATT GTGTTTCAAG GTACTGGAAT 300  
 40 GCTTTTTGAA GTCGAGGGCA AAGTTAAATC TTCAAAGTTT GAAAATGGTG GTGAAGGCGA 360  
 TACAAGGTTA GAAATGTTTA AAAAGGGATT AGAACATTTT GGTTTAGAAT ATAAAAATAAC 420  
 GTATGACAAA AAGAAAGACA GATATAAGTT TGTATTGACG CCTTTTGCAA ATCAAAAAGC 480  
 45 GTCTTATTTT ATTTCTGACG AAtCAACGCC AACGCTATAA AACTCGAGGA AGATGCAAGT 540  
 GATTTCGCCA CCTTCATTAG AGGATATGGT AATTATTGAG GAGAAaGAAAC ATTGGAACAC 600  
 GCTGGGCTCG TAATGGAAGC TAGAAGTGCA TTAGCTGAAA TATACGGCGA CATCCACGCA 660  
 50 GAACCATTTA AAGATGGTAA AGTGAAGTAC CAAGAAACTA TGGATAAAGA ATTACAATCG 720

TATCCAGAAG CAGACCCACA ACCCGGAGAC ATAGTACAAA TAAAATCTAC CAAACTAGGT 840  
 TTGAATGATT TAGTCCGTAT AGTACAAGTT AAAACGATTA GGGGTATAAA CAATGTAATT 900  
 5 GTTAAGCAAG ATGTAACGCT TGGTGAGTTT AATCGAGAAC AACGATATAT GAAAAAAGTT 960  
 AATACTGCAG CTAACATATGT TTCTGGATTA AATGATGTTA ACCTTTCTAA TCCTAGTAAA 1020  
 GCGGCAGAAA ACTTGAAGTC TAAAGTAGCG TCAATAGCTA AATCAACACT CGATTTTGATG 1080  
 10 AGTAGAACTG ATTTGATTGA AGATAAACAA CAGAAGGTAA GCTCTAAAAC TGTGACTACA 1140  
 TCTGACGGCA CTATCGTTCA TGATTTTATA GATaAATCmA ACATTAAaGA TGTAaaaMCG 1200  
 aTTGGAACGa TTGGCGATtC TGTAGCTAGA GGATCACATG 1240

(2) INFORMATION FOR SEQ ID NO: 494:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1311 base pairs  
 (B) TYPE: nucleic acid  
 20 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 494:

ACGGTGGATT TAGCCTAGAA GATTTAACGC ATCAAGGTAA ATTaTCAGCA TTTAGCTTTA 60  
 ATGATCAAaC AGGTCAAGCA ACATTGATTA CTAATGAAGA TGAAaACTTC GTAAaAGATG 120  
 30 AGCAACGTGC TGGCGTAGAT GCAAATTATT ACGCTAAACA AACATATGAT TATTACAAAG 180  
 ACACATTTGG TCGTGAATCA TATGaCAACC AAGGTAGTCC AATTGTTTCA TTAACGCATG 240  
 TTAATAACTA CGGTGGTCAA GATAACAGAA ATAATGCCGC ATGGATCGGT GACAAAATGA 300  
 35 TCTATGGTGA TGGTGATGGT CGCACATTCA CAAGTTTATC GGGTGCAAAT GACGTAGTAG 360  
 CACACGAATT aACACACGGT GTGACACAAG AGACAGCGAA CTTAGAATAT AAGGACCAGT 420  
 CAGGCGCTCT AAATGAAAGC TTTTCAGATG TTTTGGATA CTTTGTAGAT GACGAGGATT 480  
 40 TCTTAATGGG TGAAGATGTC TACACACCTG GAAAAGAGGG AGACGCTTTA CGCAGCATGT 540  
 CAAACCCAGA ACAATTTGGT CAACCAGCTC ATATGAAAGA CTATGTATTG ACTGAAAAAG 600  
 ATAATGGTGG CGTACATACG AATTCTGGAA TTCCAAATAA AGCAGCTTAT AACGTGATTC 660  
 45 AAGCAATAGG GAAATCTAAA TCAGAACAAA TTTACTACCG AGCATTAACG GAATACTTAA 720  
 CAAGTAATTC AAaCTTCAAA GATTGTAAAG ATGCATTATA CCAAGCGGCT AAAGATTTAT 780  
 ATGACgAGCA AACAGCTGAA CAGGTGTATG AAGCATGGAA TGAAGTAGGC GTGGAGTAAA 840  
 50 AATATATAAA CaAGAAGAAG TAATGTtAAA CACTTATAAA TAATTAAATT TTAAATACAG 900

ATTAGATGAG AGGAGTGTGA GGGTTGTCTG CCGAAAGACT ACTCGGCAGT CTAAAATCAT 1020  
TACAAGTAGT AGATATGTGA TAATTAAATG CTGACTTAGA ATACAAAATT CATTTTAAAA 1080  
5 GTTGTCAACAA AAAATTTTACA TGTATTTTTA TTATCTTTTG CAAAACAAAG TGTAAATTA 1140  
TAAATGAaAC ATGCATGAAT TTATTTTTTA ATACAAGAAA CGTAACTACC AAAGGAGTTT 1200  
ACAATATGAA GAAAAGTAAA CGATTAGAAA TTGTTTCTAC AATAGTTAAA AAGCATAAGA 1260  
10 TTTATAAAAA AGAACAAATc ATTTCATATA TTGAAGAATA TTTTGGTGTA A 1311

(2) INFORMATION FOR SEQ ID NO: 495:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1761 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 495:

TGCACTTTCT AAAAATACTT GCTTTACTTG TTCCAATTCC TTGTCAGACA TTGATTCGGC 60  
25 TAATTTATTC ATTATTGCCT CAAATACGTT AATTATGTCA TCCATTTTCAG TACTATAAAA 120  
ATCAAACCAT TTTGCCGTAT CTTTTTCTCT ATTAAGCTTA TGATCACTTT GAGAGCGCTT 180  
AGCTAATTCT GCATAAATAT ATGGACAAGG TGCCATTGCA GCAATTGTAT AAATAGCATT 240  
30 TTCACGACTA TGCGCTTGGA AATACATATG TTTTATGTAA TGGTCGCCAC TTGGAGGCCA 300  
AACTTTTGTT TTAATGATTT CTTCGTATGA TTCACCAACA ATTTGCGCTA AAATATCATG 360  
CGCAAGTACT TCACCTTCAA CCATAAATTC TATTTGCTCT ACTAAAAATT TTACGTCATT 420  
35 CATGCTATTC ATTTTTGGAA TTAACAAAGC ATATAAGTTT GTAAATTCTT TTAATACGC 480  
AGCATCAGCT TTTAAGTAAT GGCCTAATGC GTCAGcTCCT ATATCTCCGG ATAACATCTT 540  
CTGAATAAAG TCATCCTCAT AAATATCATT AATGATTGGC TTTGCAGCTT GGTACAATTT 600  
40 TTGTGAAAAT TCCATTGTAA AAAATCCTCC CTAAATAAAA AAACACTTTC CAACATGAAA 660  
GTAGTTTGAT GGCAATGTTG CTATACTAGC CCCATCACTT CAATAACTAC TTTCCTACGT 720  
TGGTACTAAC CAAATCAGGT CATAAGGGTC TGAACAATTC ATCTCAGCCA TATCATTAGG 780  
45 CTCCCCTAGT AGTTCCTTAG TATTCAATTG CAAATTAATC TTAGCAAACG GTTTCAACAT 840  
TTTCAATTAT TGTGCTCAG TTGTATTATT ATCTTTAAAT AATAATTCTA TAATGACATA 900  
TATTTGCGAA ATAAAAAAC CGGAACATAT CGAGAATTCC CCGATATATT CCAATCTAAA 960  
50 AGTTACTTAT ATAACATTA ATTAGCTATG CATAAATGGC TTATGCAGTA ACCCAATGTC 1020

TTGCTGGTGA TACACCTTTA TATTTAGCAG GTGCTACTGA ATCCCAAGTT GATTGTAAGA 1140  
 ATTGATACTT ACCAGCTGCA CCTGgATGTT GGrTTTACAG CATGAATATT GCCACCTGaT 1200  
 5 TCACGTTGrG CAATTTGTTT TAGATGAGCa TTCACATTTA CTGATGAACC TTCTGATGAT 1260  
 TTTGATyCAG TTGGTGTGTC AGTAACTTGT GAATTGTTTG ATGTTGATGC TTGTGGTTGT 1320  
 TGAGTTTGAG CATTTTGTGG TGCTTCAACT TCTTGTGATT GTACTTGATT AGCTTGAACA 1380  
 10 GCTGATGGTG CAACATTATT AGTTGCAGGT GCTTGTGCAC TCATGTCTGC TCCATTAGTA 1440  
 CCTGTTGCAT GGTAATTCCA AGCAAAGTGT GTACCATCTG ATTCAAAGTG ATAAGTAAAC 1500  
 CCTTCATAGT CAAATGTATA ATTATAAGCC CCAGCTTCAA TTGGTTTTTG ATTTAATGTT 1560  
 15 TGATCATTTG ATTGCGCCAT TTGCCTGAAA GATGCTTTAT TTAAGTCCGC TTCACnTGCA 1620  
 TGGGCTTCGT GGACCTGCAT TTCCTGGCTA CGATTCCTAA ACCTACTGGC nAAAnGATGAT 1680  
 GCGAGTAATG TTTTCTTCAT AATCTTAAAA TCCTCCTACA AGTGAATTG TGTCTCTAAA 1740  
 20 AGTTTTACAG TGGACGACTG T 1761

## (2) INFORMATION FOR SEQ ID NO: 496:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 794 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 496:

TCATTTATGA AAAATGTCCG AnAGAnCCaa GaAAmaCAAT TGAgCGTGAA GAAAAAGCAA 60  
 35 GACTTAAAGA AGAACAAAAG GCACGTCAAA ATGAACAGCC ACAAATAAAA GATGTGAGTG 120  
 ATTTTACGGA AGTGCCTCAA GAAAGAGATA TTCCAATTTA TGGGCATACT GAAAATGAAA 180  
 GTAAAAGCCA GAGTCAACCA AGTCGAAAAA AACGAGTGTT TGATGCAGAG AATAGTTCGA 240  
 40 ATAACATCGT AAATCATCAT CAAGCAGATC AGCAAGAACA ATTAACAGAA CAAACTCATA 300  
 ACAGTGTTGA AAGTGAAAAC ACTATTGAAG AAGCTGGTGA AGTTACGAAT GTATCGTATG 360  
 TTGTTCCACC GTTAACTTTA CTTAATCAAC CTGCAAAACA AAAAGCAACA TCTAAAGCTG 420  
 45 AAGTGCAACG TAAAGGACAA GTAGTAGAGA ATACATTAAA AGATTTTGGG GTAAATGCAA 480  
 AAGTGACACA AATTAAAATT GGTCCTGCAG TAACTCAATA TGAAATTCAA CCAGCTCAAG 540  
 GGGTTAAAGT GAGTAAAATT GTAAACTTGC ATAATGATAT TGCATTAGCT TTAGCAGCAA 600  
 50 AAGATGTTAG AATCGAAGCG CCAATACCTG GTCGTTCTGC AGTAGGTATT GAAGTGCCAA 660

ATAAACTAGA AGTTGGATTA GGaAGAGATA TATCAGGTGA TCCAATTACT GTTCCACTAA 780  
 ATGAAATGCC ACAC 794

5 (2) INFORMATION FOR SEQ ID NO: 497:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1161 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 10 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 497:

15 AGCCAGTTTT GcATTTTCGTC AAATCGCAAT GAATATATTG ATTGCTTGTC AAAATTTGGA 60  
 AGAAATTTAT TCTTCTTTTT CTTTTCAGCA GTTATCATTC CTAATTGTCC TTTCTTTTTA 120  
 TCTTAGTGAT AAAGAATCCA TCTGAATTAA AGTCTTGCGG CATGATTTGT AACGTTTTGA 180  
 20 CCAACTCTCC AGTTATCGGA TGTGAAACG GTTCAAATTC GAAGTTTTTA TTATTTTTCA 240  
 AAAACGTATA AATCACGTTT TCATTTTCTA GTTGCTCAAT TGTACATGTT GAATAGATGA 300  
 TTTCTCCACC TATTTTTACA TTGTTTTTA CATTITCCAA TATTTCAAGC TGTAATTCAA 360  
 25 CTAGTGACTC AATATGTTGT TTGCTTTGAG TATACTTAAT CTCCGGCTTA TGTCTCATT 420  
 CACCTAATCC GCTACATGGT GCATCAACAA GTATCTTATC GTATGTTTTA TCATAAGGTT 480  
 TTGTCGCATC ATGTTGAAAA GCTTTAATAT TTGTTAATCG TAATTnTTTT ATATTAAAAT 540  
 TAATTAAGTC TATTTTGTGA TCATGTATAT CTGAAGCGTC AACTTGCCCT TCTGGCATT 600  
 AAACCTCAGC AATGTGACAA GCTTTACCGC CAGGTGCACT ACATGCATCT AATACGTGAT 660  
 35 CATGTCGGTC TACATTCATA ATGTGTGCAa CAAACATTGA GCTTTTATCT TGAATTGAAA 720  
 CGAATCCATC TTAAATGAA CGAGAATGAA TAATTGGTTG TCCTCCTATA TGGAGACAAT 780  
 AAGGTAAGTC ATGATCTTTT TCAACGTCAT AACCTTCGTC TTGCAACTTT TCAATAATAT 840  
 40 CATCTAATGA TGCTCGCGTC AGGTTGGCAC GCACAGTTGT TGATGTCGTT TCTAAAAATG 900  
 ACTGTAAAAT TTTTTCAGTT TCTTCGAGAC CATAATGTGT TGCCCAATGA TCTATAATCC 960  
 ACTTCGGCAT ACTATACTCG ATTGCCATTC TTTTTTTAGG ATCTGCAATT TCATTAAAAT 1020  
 45 CAGGTAAGTC ACTACGCATC ATTGTACGTA AAATACCATT TACGACATTA CCATTATGAT 1080  
 AGCCACCGCG TTCTTTTGCT ATTTCAACTG CTTCATTAAT AATGGCATGA TTTGGAACCT 1140  
 TATCTAnATA nACATATTGA T 1161

50 (2) INFORMATION FOR SEQ ID NO: 498:

(A) LENGTH: 1504 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 498:

|    |  |      |
|----|--|------|
| 10 | AGCTCACGTC ATCTTCGGCG GCGCTAAATT AAAATAATCA ATTTCTGAGT TAAACTTTTA  | 60   |
|    | TTTACAACAT ACTATTACTA TACATTACAA ATTTTAAAAA TATACATTAC ACTCATTACT  | 120  |
|    | CAATGGmAG CGTATGATTT CmCAGCCCCC CTAGCTTGTA GAAATCATAC TTTCCCTTTT   | 180  |
| 15 | TCAATATATA TACAACATATT AAATCCCAT A GATTGCAGA GCACATAAGT AAATTTTTTT | 240  |
|    | AGAGCTTGAG GTTTGTTTAG CTTAAGCAAC CCATGAGCTC AAACACTTCC TGTTACATA   | 300  |
|    | ACACTACAAA TCGCATTATG TTGCTTAATC TTATGTTTAT ATAAATTACA CACAATAAAT  | 360  |
| 20 | AGAAAGAATG TGAACATCAT GAATAAATTA TTGCTACTCG TTACATTTAT CATTCGTGTG  | 420  |
|    | GGTTCAGGTA TTGTTATGTT AATGCAAGGC TACGAAAAAT TAACGGGCGG ATTTACGCTG  | 480  |
|    | AAAGGTTTAG TACCAGTCAT CGCTAACAAAT ACTGATTCAC CAGAGTGGTA TAAGTGGTTT | 540  |
| 25 | TTCGCAAATA TAGTTGCACA TACGACGTCA TTATTTGATA TTGTTGTCCC ACTCGGAGAG  | 600  |
|    | ATTGCAATTG GATTAGGTTT AATTTTTGGA GTTTTTCAT ATGCTGCTAG TTTCTTTGGA   | 660  |
| 30 | GCCTTTGTTA TGATAAATTA TATCTTAGCA GATATGATAT TTACGTATCC TCTTCAATTA  | 720  |
|    | ACTTTCTTTA TCCTTTTACT AATGAGTCAC TCATTGTAA AACAGATTTT ACTTAAAGAA   | 780  |
|    | ATCATTAAAT ACTTTAGAGG TCGTAAGAAC AGAGGTGAAA AAATAGATGA CCCACTTACT  | 840  |
| 35 | GATCGTGGAT GATGAACAAG ACATTGTAGA CATTGTCAA ACCTATTTTG AATATGAAGG   | 900  |
|    | TTACAAAGTA ACAACGACAA CTAGCGGTAA AGAAGCAATT TCTTTACTAT CAAATGATAT  | 960  |
|    | TGATATCATG GTACTTGATA TCATGATGCC AGAAGTTAAT GGTTACGACA TTGTCAAAGA  | 1020 |
| 40 | AATGAAAAGG CAAAAATTAG ATATCCCCTT TATCTATTTA ACTGCCAAAA CACAAGAACA  | 1080 |
|    | TGATACCATT TACGCCTTAA CTTTAGGTGC AGATGACTAT GTCAAAAAAC CATTTAGTCC  | 1140 |
|    | AAGGGAACTC GTTTTACGTA TTAATAATTT ACTTACAAGA ATGAAGAAAT ACCATCATCA  | 1200 |
| 45 | ACCAGTTGAA CAACTGTCGT TTGATGAATT AACACTTATT AACTTAAGTA AAGTtGTGac  | 1260 |
|    | tGTAAaTGGT CACGAaGTCC CTATGCGTAT TAAGGAATTT GAGTTATTGT GGTATTTAGC  | 1320 |
| 50 | TTCTAGAGAA AATGAAGTTA TTtCTAAATC AGAATTACTT GAAAAAGTTT GGGGATATGA  | 1380 |
|    | CTATTACGAA GATGCTAATA CCGTGAATGT CCATATACAC CGTATTAGAG AnAAATTAGA  | 1440 |
|    | AAAAGAGAGC TTTACAACAT ATACCATCAC AACTGTATGG GGATTAGGAT ATAAATnTGA  | 1500 |

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## (2) INFORMATION FOR SEQ ID NO: 499:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1623 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 499:

|    |  |      |
|----|--|------|
|    | ATTGAAAGCG ATAATTCGTA nTAATTGAGT TTGTTGAAAA ATTTAGGGTA ATGTAAAGAT  | 60   |
|    | ATAAAAGATA CATAGAyTGG AGAGATATAA AGATGTTGAA TGAGATACAA ATATTaaATA  | 120  |
| 5  | aTGGATACCC GATGCCTTCA GTTGGGTTAG GTGTTTATAA AATCTCTGAC GAAGATATGA  | 180  |
|    | CTAAAGTTGT AAATGCTGCA ATTGACGCAG GCTATAGAGC GTTTGATACA GCATACTTTT  | 240  |
| 10 | ATGATAATGA GGCTTCACTA GGACGAGCAT TAAAGGATAA TGGCGTCGAT AGAGAAGATT  | 300  |
|    | TCTTTATAAC AACGAAGTTA TGGAAATGACT ATCAAGGTTA TGAGAAAACA TTCGAATATT | 360  |
|    | TCAACAAATC GATTGAAAAT TTACAACTG ATTATCTTGA TTTATTTCTA ATACATTGGC   | 420  |
| 20 | CTTGTGAAGC AGATGGTCTA TTTTtagaaa CATATAAAGC TATGGAAGAA CTTTACGAGC  | 480  |
|    | AAGGTAAGGT AAAAGCAATA GGTGTATGTA ATTTTAATGT TCATCATCTA GAAAAATTAA  | 540  |
|    | TGGCTCAATC AAGTATCAAA CCAATGGTGA ATCAAATTGA GGTACATCCA TATTTTAACC  | 600  |
| 30 | AACAAGAATT ACAAGAATTT TGTGATCGTC ACGATATTAA AGTGA CTGCA TGGATGCCTT | 660  |
|    | TGATGAGAAA TAGAGGACTA CTAGACGACC CTGTCATTGT TAAAATTGCT GAAAAATATC  | 720  |
|    | ATAAAACACC AGCACAAGTT GTATTACGTT GGCATTTAGC ACACAATAGA ATTATTATTC  | 780  |
| 35 | CAAAATCTCA GACACCTAAA CGCATTCAAG AAAATATAGA TATTTTtagat TTTAATTTAG | 840  |
|    | AATTAACAGA AGTAGCTGAA ATTGATGCTT TAAATAGAAA TGCAAGACAA GGTAAAAATC  | 900  |
|    | CAGATGATGT GAAAATTGGG GATTTAAAAT AACTGGATGT TAAATTTTAC GTTTATGAAT  | 960  |
| 40 | GCCTTTTAAAT GTGTACATTA AAATAAATGA GTTGGTTTTT ACTATTTGAT AAAACAATAC | 1020 |
|    | TCAGGTACAT TCAAAATCTT TTAAATAAAA AGGATGGACA TAGATGAAAA TTAGAGTCGT  | 1080 |
| 45 | CATTCCTTGT TTTAATGAAG GGAAGTCAT TACACAAACA CATCAACAAT TAACTGAAAT   | 1140 |
|    | ACTTTTCAAA GATAGTAGTG TGAAAGGCTA TGATTATAAT ATGCTTTTCA TAGATGATGG  | 1200 |
|    | TAGTACGGAT ACCACTATAG ATGAAATGCA ACATCTTGCC ACAATAGATA GGCATGTCAG  | 1260 |
| 50 | CTTTATTTCT TTTAGTAGAA ATTTTGAAAA AGAAGCAGCT ATGATTGCAG GTTACCAGCA  | 1320 |
|    | TAGTACTGAA TTTGATGCAG TCATCATGAT AGATTGTGAT TTGCAACATC CACCTGAATA  | 1380 |

TAGAAGTGGT GAAAATTTTA GTCGCAAAAC ATTAAGCCAT TTGTATTATA AGTTAGTTAA 1500  
 TTGCTTTGTA GAAGAAGTAC AATTTGATGA TGGTGTGGT GATTTTAGAC TTTTAAGCCA 1560  
 5 AAGAGCTGTT AAATCCATTG CATCACTTGA AGAATATAAT CGnTTTTCAA AAnGGnTATT 1620  
 TGA 1623

(2) INFORMATION FOR SEQ ID NO: 500:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 605 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 15 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 500:

20 AAAGTnGGTG AAnCTATATA CTTAATCTAT ATTTATATAT TAACCATTAG GGTAAAAAAT 60  
 TACTCTAGCA TTTATGAATA GATGGGAGTT TATTTTATTA TTATATAGGA GAGATGTTGA 120  
 ATGACACATC GCGCACTATT AGTTGTTGAC TATTCATATG ACTTTATCGC AGACGACGGC 180  
 25 TTACTAACAT GCGGTAAACC TGGACAAAAT ATTGAAGATT TTATTGTTTC TCGTATCAAT 240  
 GACTTTAATT ATTATCAAGA CCATATATTC TTTTrrrTGG ATTTACATTA TTTACATGAC 300  
 ATTCATCATC CTGAAAGTAA ATTATCCCA CCACACAATA TCGTAGATAC AAGTGGTAGA 360  
 30 GAATTATACG GTAAAGTAGG TAAATTATAC GAAACAATTA AAGCGCAACC TAATGTACAT 420  
 TTCATTGATA AAACGCGCTA TGATTCGTTT TTTGGTACCC CGCTTGATAG TTTATTGAGa 480  
 GAAAGAAGTA TTAATCAAGT CGAAATCGTT GGTGTATGTA CCGATATTTG CGTGTTACAT 540  
 35 ACAGCAATTT CTGCATACAA CTTAGGtTAT AAAATTTTcAG TACCTGCTGA GGGAGTGGCT 600  
 CATTT 605

(2) INFORMATION FOR SEQ ID NO: 501:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1739 base pairs  
 (B) TYPE: nucleic acid  
 45 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 501:

50 TAGGTTnAAA GCATAGnTTT nTCAAAAAGA CAAATCATTC ATATATTGGA GGATATTTTG 60  
 GTGTAAGATA TAGTGCAACC ACAATTGCTA AAGACTTGAA GGAACtAAAT ATATATCGTG 120

|    |  |      |
|----|--|------|
|    | TGAGAGAAAA GTTTAGACAC TATTGTGAAC ATGAAGTTCT AAGTTCAATC ATCAATGGTT  | 240  |
|    | CATACATTAT CGTCAAAACC TCACCTGGTT TCGCCCAAGG CATAAACTAT TTTATCGATC  | 300  |
| 5  | AGCTAAATAT AGAAGAGATA TTAGGTACGG TGAGTGGAAA TGACACTACA TTAATCTTAA  | 360  |
|    | CTGCCTCAAA TGATATGGCA GAATACGTAT ATGCAAAATT ATTTAAATAG ACATGTATCA  | 420  |
|    | AATGAATAAT AAAAATTTGT TTCGTATCAC GTGTACTCAA GTTAGTTACC AAATATTAAC  | 480  |
| 10 | TTGTGTACGC GTTTTTTTTAT GGAAAGAAAG AATTCATAGT CATTCAATTG ACTGTATAAA | 540  |
|    | AAACTTTATA CAACATGTTT TTATGGGTAT TTTTGAATAA AAAATGTATA TTTTGACCCA  | 600  |
|    | AAATACCTTT ATTTATGTAT AAAAATCCAT TATTATGTAT TGTATAACAA AAAGATATGA  | 660  |
| 15 | AATTTTCGAC TTTCTTTATG TGAATATAAT CACATGTAAG CGTTTGAAGA TTGTCTATAC  | 720  |
|    | TCTAAATGAA TTCAAAGATA AAAGGAGGAA ATAGACATGA CAGATGGTCC AATTAAAGTA  | 780  |
| 20 | AATAGCGAAA TTGGAGCITT AAAAAGTGTG TTACTTAAGC GTCCTGGAAA AGAATTAGAA  | 840  |
|    | AATTTAGTAC CTGATTATTT AGATGGATTA CTATTTGATG ATATTCCATA TTTAGAAGTA  | 900  |
|    | GCTCAAAAAG AGCATGACCA TTTTGCGCAG GTGCTAAGAG AAGAGGGTGT TGAAGTACTT  | 960  |
| 25 | TACCTTGAGA AGTTAGCAGC TGAAAGTATT GAAAATCCTC AAGTAAGAAG TGAATTTATT  | 1020 |
|    | GATGATGTAT TAGCAGAGTC TAAAAAACA ATATTAGGTC ATGAAGAAGA AATTAAGGCA   | 1080 |
|    | TTATTTGCGA CACTTTCTAA TCAAGAACTT GTAGATAAAA TAATGTCAGG GGTACGTAAG  | 1140 |
| 30 | GAAGAAATTA ATCCGAAATG TACACATCTA GTAGAGTATA TGGATGATAA GTATCCATTC  | 1200 |
|    | TATTTAGATC CAATGCCAAA CCTTTATTTT ACTAGAGATC CACAAGCCTC AATAGGACAC  | 1260 |
|    | GGTATAACAA TCAATCGGAT GTTCTGGAGA GCACGACGAC GAGAATCAAT ATTTATTCAA  | 1320 |
| 35 | TATATTGTAA AGCATCATCC TAGATTTAAA GATGCGAATA TTCCAATCTG GTTAGATCGA  | 1380 |
|    | GATTGCCCAT TCAATATTGA AGGCGGCGAT GAACTTGTTT TATCTAAAGA TGTCTTGGCT  | 1440 |
| 40 | ATAGGCGTTT CAGAACGTAC ATCTGCACAA GCTATTGAAA AGTTAGCGCG ACGTATTTTT  | 1500 |
|    | GAAAATCCGC AGGCGACGTT TAAAAAGTA GTAGCAATTG AAATTCCAAC TAGTCGAACT   | 1560 |
|    | TTTATGCACT TAGATACAGT ATTTACAATG ATAGATTATG ACAAATTTAC AATGCATTCA  | 1620 |
| 45 | GCCATTTTAA AGGCAGAAGG CAAATATGAAT ATATTTATTA TTGAATATGA TGACGTAAAT | 1680 |
|    | AAAGATATTG CCATCAAACA ATCTAGTCAT TAAAAAGATA CTTTAGAAGA CGTACTAGG   | 1739 |

(2) INFORMATION FOR SEQ ID NO: 502:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1745 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 502:

|    |  |      |
|----|--|------|
| 5  | CTGTACATAC AGCAATATCG TTAACAAATG AAAACAGTAT TTTAGGATTG TAAACCATGA  | 60   |
|    | TAAACCTAAA ATACTGTTAT TTTTATTACT TAAATTTCTT CTTCAATGCC TTTTCAACAT  | 120  |
|    | AAGGTGGAAC GAATTCAGAA ATATCTGCTC GATAAGCTGC AACTTCTTTA ACAATACTTG  | 180  |
| 10 | AACTTATAAA TGAATAATTA GTACTAGACA TCATATATAA CGTTTCAATT TCATTGTTCA  | 240  |
|    | ACTTTTTTATT CATTGAAGTT AAGCGTAATT CATATTCAAA ATCACTGACT GCTCTTAAAC | 300  |
|    | CACGTATGAT TGTTTTAGCT CCTACTTGTT CACAATAATC GACTAGTAAA CCACTAAATT  | 360  |
| 15 | GATGAACCTT GACATTAGGT AAATGTTTAA CAGATTGTTT AATTAAATCC ATACGCTCTT  | 420  |
|    | CTAAACTAAA CGTACCTTCT TTTTACTAT TTTTAAGAAC ACAGACATGA ATTTTCATCA   | 480  |
| 20 | ATCTATCTGT ACTTCTCTCA ATAATGTCTA AATGACCATA AGTAATGGGG TCAAAACTAC  | 540  |
|    | CCGGAATGAC CGCTATTGTA TGTTCATGC TATTCTCCCT TTTCTAATAA CAATGTGTCT   | 600  |
|    | GTCAACCCAT AATGGTAACG TTTAATCATA TTAAACGGTT GATAATCTAT TTCTTCATGA  | 660  |
| 25 | TTGCTAAATT CACAAACGAT GATACCATT TCTTTCAATA AATTAACTC TGAAATTAGT    | 720  |
|    | TTTAAAGCTT TATCAATGAG ACCTTTATTA TAAGGTGGAT CTAAaGAAAAT GACATCAAAT | 780  |
|    | TGAATATCAC GTTTTGACAA TGCTTTTAAA GCTCTATCTG CATTATTTTT ATAACTTCA   | 840  |
| 30 | GATTGTGCCT CTAAATCCAA ATTCGCAAGA TTTGaTTTAA TAACTTTTAC AGCTTTAAAA  | 900  |
|    | TTTTGaTCAA CAAAGATTAC CTTATCCATA CCTCGAGAGA GTGcTTCTAT TCCAAGCGCC  | 960  |
| 35 | CCGCTTCCTG CAAATAAATC TAAACCTATA CCTGACACAT CATATAAACT ATTAAAGATA  | 1020 |
|    | CCTTCTTTAA CTTTATCCAT AGTTGGTCTC GTATTACGGC CTTCCATACT TTCTAAAGCT  | 1080 |
|    | TTACTTTTAT GTTTACCTGC AATGACGCGC ATGTTGTTCA CACTTCCAAT TCATTTAGTT  | 1140 |
| 40 | ATTTAATATA ATTTATTGAG AAAAAGGAGA ATGATAAACC AATGAAACAA ACATTTATTA  | 1200 |
|    | CACTTGGTGA AGGTCTAACA GATTTGTTTCG AATTCATGAC GATGATTGAA TATAACCATC | 1260 |
|    | AACGTATTGA TAAAATTATC TATTTTCATT CACCACAAGC TGAAAATAAA AAGTCATCTG  | 1320 |
| 45 | TAGCAATCAT TATGAACCCT ACAACTGGCA ATCATTTCCA AGCATTTTAT ATCATGATAA  | 1380 |
|    | ACGCTATTAA ATATCCATAT CCAGATTCAA ATAAAAAGTT TCAAATGATA AATGATTGTG  | 1440 |
|    | CTGAAAAAT CGACATACCA ATTTTAGGTA TCGATGTACA GCCCCCTCAA GCATTTTCATG  | 1500 |
| 50 | ATTTATCGTT ATATTATAAT TATTTAATTA GTGTGTTAAG GCTCCAAAAA TGGATACCAG  | 1560 |
|    | aACTTCAATA ATATTAATTA TATATTTCTG GTTCTCTTT TTCGTAAGTT TTCTTTAAGT   | 1620 |

TTTGATCAAC ATCTTGCTCA TTCACATACA TAATTACAAA TTTACGATCT CTATTTGAAT 1740  
GAACG 1745

(2) INFORMATION FOR SEQ ID NO: 503:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 1035 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 503:

TCGTCTTTAA TCTTGCTGAC TTTAGAAGGC TTACGAGTGC GGTACCATT TTTTGCATCT 60  
TTAACTGATT GAACTAAAGC TtGACGTGTA GATTTATCAG CTAAACTAAT TGCACCACCA 120  
ATTACGGCAC CAATTAAAAT ACCAGGAACA AATTTATTTT CCATAAAAAA CTACCCCTCT 180  
TTCAAATTTG CATCTTTTAC GATGTAGTCT ATTAAATTAT CACAAGATGA TAATACCATG 240  
TCGTATACAC CTTCAAAATT ATTTCGTGTAG TATGGATCTG GTACATCACT CTCTTCATA 300  
TTACTAAATT CTAACAGTTT GAACAATTGT CCCTTAAGAT TAGGATTGAT AGATTTAATA 360  
TTATCAACGT TACTTTGATC CATAGCCACA ATGTAATCAA AATCATCTGT CGCTTCGAAT 420  
AATTCATAA TCATGCCATC AAATGGAATA TTGTGTTTGT TGAGAATTTT TTGTGTACCT 480  
TCATGAGGTG GCTCTCCTAA ATTCCAGCTA CCAGTACCTC TTGAATGTAC TTTAATATCA 540  
TGAATATTTT TGTCTTTAAG TCTTTGTGCGC ATGATTGCTT CTGCCATTGG AGAACGACAT 600  
ATATTGCCAA GACAGACAAA TGCTACATCT ACCATTTTGA TTCCTCCAAA CTATGTAGTT 660  
ATATCCCAT TTTATAGCGA CTTTAAACAA TAAGAAAGCA GATTATATAA AATTCTATTA 720  
AAGTTTATTA AATTGTGATA CTTTGATAAC ATAACATTA TTAGAGGTGA ACATTGTGGC 780  
TATGACAAAT GAAGAGAAAAG TnTTAGCTAT TAGAGAGAAG TTAAATATtG TTAATCAAGG 840  
ATTATTAGAT CCTGAAAAAT ATAAAAATGC AAATGaAGAA GAATTAACAG ATATATATGA 900  
TTTTGkTCaA yCAAGAGaAA GATTGTCGCC AAGTGaAGTG mCAGCTATTG CTGaCGCTTT 960  
AGGACAATTG CGACACGAAT AGGAGTGGA ATTTTGACTA ATTACAAAGA AAAGTTACAA 1020  
CAATACGCTG AACTA 1035

(2) INFORMATION FOR SEQ ID NO: 504:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 1284 base pairs  
(B) TYPE: nucleic acid

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 504:

5 AnCCTGACAA GATTCTTATA TTCATAGATA TGAGAGCTAA AAATGAAATC AACAAACaNa 60  
 CAATAAAGTA AACGATAATA GCCCATATAC CATTTTGTAA CCATATTACA AATTGTGTTG 120  
 TATTATAGCC ATTTCCAGCT AATAATTGCT GGATAAATGC ATTATTGTTT AATGTATTTT 180  
 10 CAAGATTAGC AAtCGATGTG TTATTACTGA ATGAAACAAG TGCTATAAAC ATCGTAATGA 240  
 CAGTAAGCAC TAATAACATC ACCCAACATA ACCAACCTAG AACTTTTTCa GTTAATCTAC 300  
 TTACTGGACG TTTAATTTGA GTAAATTGTT CTCCAGTCAT TCGTTACAAC TCCTTATAGT 360  
 15 ACTTATCCCG TTATTATAAC TAAATATACA GTAAATAACT ACTATTATG ATTTTATTTT 420  
 AATGACATTT TGAAATTCaA AAAGTTTTCA TTGTATTAC TTAaAACTTC AGGTCCTAAA 480  
 20 TCTTTATAAA CTTCAAGGCG TTCTTGCTCT TTCTTAGTCG GATAAAAACG ATGGTCGTCT 540  
 TTAATCTCTT TAGGCAACAA TTGTCGAGCA GCCTTGTTTG GCGTTGCATA GCCTACGAAT 600  
 TCTGTATTTT GCTTGTTATT TTTAGCATCT AATAAAAAAT TCATAAATTT ATATGCACCC 660  
 25 TCTTTATTTT GTGCCGTTTT TGGAATTACC ATATTGTCGA ACCATAAATT CGATCCTTCT 720  
 TTAGGAATAA CATAATTATA TTTATCCCCT TCTTGCACTA GAGGTGCTGC AACACCACTC 780  
 CAAACAACCG CTATGTTACC TTCATTTTGT TGAAGCATCA TGGTAATTC ATCACCTACG 840  
 30 ACACCTCTTA CTTGTGGTGC TAGTTTGGTT AAATCTCGCT CTGCTTCTTT TAAATGGTGC 900  
 GAATTACGGT CATTAAGATT ATACCCAAGT TTATTCAaAC TCATGCCTAT AATCTCTCTA 960  
 GCACCGTCAa CTAGTAAaAT TTGGTTTTTA AATTTAGGAT TATACAATGA CTTCCAACCTA 1020  
 35 TCAaATGATT CATTTGGATA CTTTTCTTTA TTATATAAAA TACCTACAGT TCCAAAGAAA 1080  
 TAAGGTAAAG AATATTTATT GCCTCTATCA AATGACATAT TCATATAATC TGAATCTAAA 1140  
 40 TTTTAAATAT TAGGTACCTT ATTATGATCT ATTGGTAACA ATAAATGATC TCTTTTCAAT 1200  
 TTTTGAaCTG nATATTCACT AGGAnAAGCA ACATCATAAT GTGTACCGCC AGTGCGAATT 1260  
 TTGGnGTCCA nCGCTTCATT TGAA 1284

## (2) INFORMATION FOR SEQ ID NO: 505:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5763 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

|    |            |            |             |            |            |             |      |
|----|------------|------------|-------------|------------|------------|-------------|------|
|    | ATAATTAACA | TCTTTTGCTA | TATACCACCA  | GTTTGATACA | TAAAATATCG | CAGCAATAAT  | 60   |
|    | ATCATGTTTA | ACCCTAATGA | TATTATCTGA  | TTTTAATAAT | AAGGTTGCTG | TCCCTACAAC  | 120  |
| 5  | CATTAATAAA | ACTATGACTG | CTGGTAATAA  | ACGTTTTTAA | CGACGTATCC | AAAAGCTTTT  | 180  |
|    | CAATTTAATG | ATACCTGTGT | CATCATACTC  | TTTGAGTAAT | AAGCTTGTA  | TTAAATAACC  | 240  |
|    | AGAGATCACA | AAAAATGTAT | CCACACCTAA  | AAAGCCACCT | GtCAACCATT | GCTTATTTAA  | 300  |
| 10 | GTGGTAAATA | ATAATTCCTA | GAACAGCGaT  | TGCCCTCAAA | CCATCGAGCC | CTGGAATATA  | 360  |
|    | TCTCATTTTC | TTATACTTTG | TAAAACCCTT  | TGTTTTGTTC | ATTTTTGCAT | TCTTCCCTTT  | 420  |
| 15 | TAAAACTGTT | CTTCTTAGAT | GCTTAATTAA  | ATTTAGTTAT | GCTGTTTAAA | AGAATATTGA  | 480  |
|    | AATGCATATG | TATATTATTG | AATTACGACA  | TCATCAAAAT | CATATTGACT | AAAATACTGT  | 540  |
|    | TAAATTAATA | AAATTACCAA | TGATGATTCT  | TACTTCGAAA | TCCAATTTGT | AATGCAACTC  | 600  |
| 20 | GGCAACTTAA | AACTATGAA  | GTATTATGTA  | TTGTAATATA | ACTGTAATAT | AAATTCAATT  | 660  |
|    | TATTATAAAA | ATTTTCAAGA | AAATATTCAA  | CTAGAAAATG | AATTGTGCAC | TCTTGGAAGT  | 720  |
|    | GCAAGTCACT | GTCTTAATTC | ATATTTTTTG  | AAACAAGTTA | GATATAAATT | TTCAAATAA   | 780  |
| 25 | AATCAGAAAC | TAGAACATAA | ATAAGGCTCC  | CTTCAAAATT | TTCATTTTTC | AATGTCTACT  | 840  |
|    | TTGAAGGGAG | CTTATTCACA | ATGAATTATA  | CTCTACAATG | TTATATTGAC | TGCGGGCCCA  | 900  |
|    | AACACAGAGA | ATTTGAAAA  | GAAATTCTAC  | AGGCAATGCA | AGTTTATGTT | AGCTCACACC  | 960  |
| 30 | AAGTGCAATC | TTAGCGTAAC | GTGACATCAT  | ATCTTTTGTC | CAAGGTGGAC | TCCATACGAT  | 1020 |
|    | ATTCACCTCA | GTATCCTGAA | TTTCAGGAAT  | CTCTGCTAAT | ACTGTTTTAA | CTTGaTCAAT  | 1080 |
| 35 | AATTTGAGGT | CCCATTGGAC | ATCCCATGTA  | TGTTAAAGTC | ATATCAACTG | TACATACGCC  | 1140 |
|    | TTCATCATCA | ACATTCACTT | TGTATACTAA  | ACCCAAATTA | ACGATATCAA | TTCTTAATTC  | 1200 |
|    | AGGGTCAATT | ACCATTTCTA | ATGCACCTAA  | GATACTATCT | TTCAATGCCT | CTTCCATCCA  | 1260 |
| 40 | TATCACCTCT | TTAATGTCAT | ATTATTCATA  | ATATATCAAA | TATCCGACAA | AACGCCAATA  | 1320 |
|    | AAATGCTATG | ATGTATCTAT | ATGAACCTAAG | CAACTTATGA | GGAGAGAGAT | ATGCAACCAC  | 1380 |
|    | ATTTAATATG | TCTAGACTTA | GACGGAACAT  | TATTAAACGA | TAACAAAGAA | ATTTTCATCAT | 1440 |
| 45 | ATACTAAACA | AGTATTAAAT | GAATTACAAC  | AACGTGGaCA | CCAAATTATG | ATTGCGACTG  | 1500 |
|    | GCAGACCTTA | TCGTGCAAGT | CAAATGTATT  | ATCATGAATT | AAATTTAACG | ACACCAATTG  | 1560 |
|    | TTAATTTTAA | TGGCGCTTAC | GTACATCACC  | CTAAAGATAA | AACTTCAAA  | ACTTGCCATG  | 1620 |
| 50 | AAATTTTAGA | TTTAGGCATC | GCACAAAACA  | TTATTCAAGG | ATTACAACAA | TATCAAGTAT  | 1680 |
|    | TTAATTTTAA | TCGTGCAAGT | CAAATGTATT  | ATCATGAATT | AAATTTAACG | ACACCAATTG  | 1740 |

|    |             |            |            |            |            |            |      |
|----|-------------|------------|------------|------------|------------|------------|------|
|    | AAGAATCCCC  | TACCTCAATT | TTAATTGAAG | CCGAAGAAAG | TAAAATACCT | GAAATCAAAA | 1860 |
| 5  | ATATGCTTAC  | TCATTTTTAT | GCCGATCATA | TTGAGCATCG | ACGCTGGGGC | GCACCATTCC | 1920 |
|    | CTGTCAATTGA | AATTGTAAAA | CTTGGTATTA | ATAAAGCAAG | AGGCATTGAG | CAAGTTAGAC | 1980 |
|    | AATTTTTTAAA | TATTGACCGA | AATAATATTA | TTGCATTCCG | TGATGAAGAT | AATGATATTG | 2040 |
| 10 | AAATGATTGA  | GTACGCGCGT | CACGGTGTTG | CTATGGAAAA | TGGTTTGCAA | GAACTTAAAG | 2100 |
|    | ATGTAGCGAA  | CAATATTACA | TTCAACAATA | ATGAAGATGG | CATTGGTCGA | TATTTGAATG | 2160 |
|    | ATTTCTTTAA  | TTTAAATATT | AGATATTACT | GTTAATTTAT | AACTAATCAT | TTTATAATAT | 2220 |
| 15 | TTTAAAACAA  | TAGGAGGTAA | GTTACGATGC | CCAAAATAGT | CGTAGTCGGA | GCAGTCGCTG | 2280 |
|    | GCGGTGCAAC  | ATGTGCCAGC | CAAATTCGAC | GTTTAGATAA | AGAAAGTGAC | ATTATTATTT | 2340 |
|    | TTGAAAAAGA  | TCGTGATATG | AGCTTTGCTA | ATTGTGCATT | GCCTTATGTC | ATTGGCGAaG | 2400 |
| 20 | TTGTTGAAGA  | TAGAAGATAT | GCTTTAGCGT | ATACACCTGA | AAAATTTTAT | GATAGAAAGC | 2460 |
|    | AAATTACAGT  | AAAAACTTAT | CATGAAGTTA | TTGCAATCAA | TGATGAAAGA | CAAACGTGAT | 2520 |
|    | CTGTATTAAA  | TAGAAAGACA | AACGAACAAT | TTGAAGAATC | TTACGATAAA | CTCATTTTAA | 2580 |
| 25 | GCCCTGGTGC  | AAGTGCAAAT | AGCCTTGGCT | TTGAAAGTGA | TATTACATTT | ACACTTAGAA | 2640 |
|    | ATTTAGAAGA  | CACTGATGCT | ATCGATCAAT | TCATCAAAGC | AAATCAAGTT | GATAAAGTAT | 2700 |
| 30 | TGGTTGTAGG  | TGCAGGTTAT | GTTTCATTAG | AAGTTCTTGA | AAATCTTTAT | GAACGTGGTT | 2760 |
|    | TACACCCTAC  | TTTAATTCAT | CGATCTGATA | AGATAAATAA | ATTAATGGAT | GCCGACATGA | 2820 |
|    | ATCAACCTAT  | ACTTGATGAA | TTAGATAAGC | GGGAGATTCC | ATACCGTTTA | AATGAGGAAA | 2880 |
| 35 | TTAATGCTAT  | CAATGGAAAT | GAAATTACAT | TTAAATCAGG | AAAAGTTGAA | CATTACGATA | 2940 |
|    | TGATTATTGA  | AGGTGTCGGT | ACTCACCCCA | ATTCAAAATT | TATCGAAAGT | TCAAATATCA | 3000 |
|    | AACTTGATCG  | AAAAGGTTTC | ATACCGGTAA | ACGATAAATT | TGAAACAAAT | GTTCCAAACA | 3060 |
| 40 | TTTATGCAAT  | AGGCGATATT | GCAACATCAC | ATTATCGACA | TGTCGATCTA | CCGGCTAGTG | 3120 |
|    | TTCCTTTAGC  | TTGGGGCGCT | CACCGTGCAG | CAAGTATTGT | TGCCGAACAA | ATTGCTGGAA | 3180 |
|    | ATGACACTAT  | TGAATTCAAA | GGCTTCTTAG | GCAACAATAT | TGTGAAGTTC | TTTGATTATA | 3240 |
| 45 | CATTTGCGAG  | TGTCGGCGTT | AAACCAAACG | AACTAAAGCA | ATTTGACTAT | AAAATGGTAG | 3300 |
|    | AAGTCACTCA  | AGGTGCACAC | GCGAATTATT | ACCCAGGAAA | TTCCCCTTTA | CACTTAAGAG | 3360 |
|    | TATATTATGA  | CACTTCAAAC | CGTCAGATTT | TAAGAGCAGC | TGCAGTAGGA | AAAGAAGGTG | 3420 |
| 50 | CAGATAAACG  | TATTGATGTA | CTATCGATGG | CAATGATGAA | CCAGCTAACT | GTAGATGAGT | 3480 |
|    | TAACTGAGTT  | TGAAGTGGCT | TATGCACCAC | CATATAGCCA | CCCTAAAGAT | TTAATCAATA | 3540 |

|    |            |            |             |             |             |             |      |
|----|------------|------------|-------------|-------------|-------------|-------------|------|
|    | GTTAGAATTA | TGTTGGACTG | GTACTACTAT  | CCAGTCCATT  | TTTTATGTTT  | AACATTTTTTA | 3660 |
|    | GAATCAAAAA | AGACATAAGG | TCTTGGACTA  | ATAATTGTCC  | ATGCCTTATG  | TCATATACTA  | 3720 |
| 5  | TATGTCTTAT | CAATTAGCCA | ATACCGAATA  | ATTTTGATAT  | AGGscCTAAC  | GGTAGAATGA  | 3780 |
|    | CACCTAATAC | CATTGTGATG | ATAATTAATG  | CAATTGTTAT  | CCAAAACATT  | GTGTGACTTT  | 3840 |
| 10 | GTTCATGTCT | CTTTCTTTTA | GCAATCGACA  | CTTCCATCAA  | TCCAACACT   | GCAACACCAC  | 3900 |
|    | ACAGCATTTT | CAATGTAAGC | AACATATGAT  | TGCCCCGCC   | ATTCATAAAT  | GACTGAATTA  | 3960 |
|    | ATATCCAAAA | TCCTGAAATT | AACGTCAACA  | GCATAAATA   | GCGTAAATC   | ATGTGCAACG  | 4020 |
| 15 | GTTTGAAAAA | TGGTGATCTG | CCTTGATTTT  | TTGAAATGTT  | TAAGTATGTA  | GCGATAAATA  | 4080 |
|    | AAATAATCGC | TAATACCCAA | CTTAATATAT  | GTAAATGTAA  | CATACTGATT  | CCCCCCTT    | 4140 |
|    | TAATTATTTA | TATTATTAAA | TTAAAGCTTC  | TTGGGATTAA  | TACCCACTTG  | CTTGTAATTT  | 4200 |
| 20 | AATCATGATT | TGATTATACA | CGAATATATA  | TTCTACCACA  | CTTCTATATT  | TGAGAGGAAG  | 4260 |
|    | AACATGACAT | TTTATTCCTT | ATTAGAATAT  | TGTGAATCTG  | CTGTAAAATA  | ATCAACTACT  | 4320 |
|    | TCTTAATATC | AATATTTTAC | TTTCATCTCA  | AAATGGTAAC  | ATTATAAATA  | ATTTATCTTT  | 4380 |
| 25 | AACACCTTTT | TAGAAAAGCA | AGAAAAAACT  | AACCAATCTA  | TATAAAGACT  | GGTTAGCTTT  | 4440 |
|    | TTAAATGATA | ATTATTTAGC | GATATAAGTT  | GTCAGCGTTC  | CAATATTATC  | AATAGTCACT  | 4500 |
|    | TTAACTTCAT | CACCTGGTTG | TAAAAATTTA  | GGTGGTTGCA  | TACCTGCACC  | AACGCCTGCT  | 4560 |
| 30 | GGTGTACCAG | TTGCAATAAT | ATCTCCCGGA  | TGTAGTGCAA  | CATATTTTGA  | AATTTCTTCT  | 4620 |
|    | ATTAATTCAT | CAATTTTAAG | AATCATTTTCG | CCAGTGTTAC  | CATCTTGTCT  | AATTTCAATG  | 4680 |
| 35 | TTAACTTTTG | TAACAATATT | TACATTTTCA  | GGTAATGGTA  | GTTTCGTCTTT | AGTAACGATA  | 4740 |
|    | TAAGGACCCA | TTGGGCAACC | GCCAGTTAAA  | CTTTTTGATA  | AAAATGCTTG  | ATCTTGTTC   | 4800 |
|    | CTTTGTGCTT | TGCGATCAGT | GATATCGTTA  | ATAATTGTAT  | AGCCGTAAAC  | ATAATCTAAA  | 4860 |
| 40 | GCTAATGCTT | TTGGAATCTT | TTCAACAGAC  | TTACCAATAA  | CAATACCTAA  | TTCACTTCA   | 4920 |
|    | TAATCTAATT | GATCAGTAAT | ATCTTTATGA  | TTTGGAAATTG | TTGCATTATC  | TCCTGTTAAA  | 4980 |
|    | GATGACGCTG | CTTTTGTA   | TACATATAAT  | TTTTCCACTT  | CATGATTTAA  | TTCTGTCGCA  | 5040 |
| 45 | TGATCTTTGT | AATTTCTACC | AAAAGCAATC  | ACATTATTTCG | GAGGTGTTAC  | TGGTGGTAAA  | 5100 |
|    | AATTCAATGT | CATTAAATGA | AATTTTATAG  | TCTTCAGCTT  | TGCCGCTATC  | TTCTGCTGCT  | 5160 |
|    | ACAACTGCTT | TACGTACTTG | TTCTTGAAAA  | TCTAAAGTAT  | GATTTTGTTG  | TAAACCAGCT  | 5220 |
| 50 | AACAATGTTT | TAGGATGGAA | ATCTCCTTCT  | GCAAAGTCAG  | CAAATACTTG  | TGTTAAATCC  | 5280 |
|    | CATACAGCAT | CTTCGCGTTT | TACTTTAAAG  | CCATATGAAG  | TTTTGTGATT  | ATACTTGAAT  | 5340 |

TTCGTTATCA AATAACAAAT AAATAAGTAA GACAATTTTG AAAATGAGTT GTGTTTCATTC 5460  
 TGCTACAAGG ACTTTGCACT TAATCGAAAT TATTTTTTAT TCTTTTGAAA ATCAAAATAC 5520  
 5 TATAGTTGCA ATGTACCAAA TTTGAAGAAG TATAAATAAC CTTTAACTTC TTTATTAAGA 5580  
 ATCGTTTGAA GCGTATTTTG ATAATATTTT ATCTGTATCT TATATTTATT TTTTAATTGT 5640  
 10 GTACCAATTT CTTTCATCTGT CATCCCACGG CGACGATTAA ATGCATCGGT TTTATAGTCT 5700  
 ACAAAATAAT GCACACCATC TTTAACAAAG ATTAAGTCAA TCATACCTTG AATAATTGAG 5760  
 ACG 5763

(2) INFORMATION FOR SEQ ID NO: 506:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 422 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 20 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 506:

25 CCATATGATT TTGTGCAATA ACTCTTTTTC TTTCTTCTTT TCGTAAAAG TTGTACATCG 60  
 CTTTGTGTT TAAGAGACTA TTGTTTTCTT TAGGTTTTTG AACTTCACTC AGTGTATTTT 120  
 TAGTTGTAA CACTAAAATT CCAACTGTTG TATCTTTGTA TCTAGCCATA ACTTTATTCA 180  
 30 GATGTTTGTC ATTTGTAATA ACTACGACAT AATTAAACAC TTCATAATAA TCATTAATTT 240  
 GATTATCTAA TCTATCCAGC TTATCTAATT CTGTTTTAAT CTCATAGACA ACGCCTTTGC 300  
 CGTTTAACAA TATAAATCA GCaATACTTT TCCCTATGGG CATCTCAGAA AGTGCAAGTAG 360  
 35 TTGTATTAAT AGAATGTCGT CCTAGAAGGA GTkTATTAAG TATnGTGTTT TTGTAAAAAT 420  
 AT 422

(2) INFORMATION FOR SEQ ID NO: 507:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1188 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 45 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 507:

50 GCTTATGTAT TCTCAAATA TTTATGTGAT ACGCAAAGGA GACATGGTTA TTCGACCAGC 60  
 ATTTGATGAT GACGATCAA GAAACGGTAG TGAAATAATT CGGTTTGACA AAACGCGTAT 120

TTATCTTGGC AAGAAAGCAG AGACAAACCG CATTACTGGC ATTTCTAGTA AACCACCTAT 240  
 TTTACTAACA CCATTATTTT CAACTTATTT TTTCCCAACA CATTCTGACA GACAAAATGA 300  
 5 AAATATTTGG TTAAATATGC ATTATATCGA AAGTATTAAA GAATTAAAAA ATCGTAAATG 360  
 TAAAGTGACA TTTATTAATA ATGAATCAAT CATTCTTCAT GTTTCATACC ACAGTTTATG 420  
 GCATCAATAT AACCAATTCCA TTTTTTACTA TTACATGGTA GATAAACAAT CTCGCATGAT 480  
 10 ATCAAAAAAT CCCGACCAAC CAATAGATTA TAATAAAGCC ACATTGAATG TGTTTGAAGC 540  
 ATTGACACGC TATTCTTTAT TTGAAGATAA ATAAATTGTT TATTTTTTAAA ATATGCGGAA 600  
 TGTTTTATAA ATATAGTGTA AATGTTCTGC ATATTTTTTTT AAGGTATCTA TTGCAAATTA 660  
 15 ACTTAATCTT GTTATAATAA TATTTGTGCT TGaTATTCAA ACACATACAA ATTAATCCAC 720  
 AGTAGCTCAG TGGTAGAGCT ATCGGCTGTT AACCGATCGG TCGTAGGTTT GAGTCCTACC 780  
 TGTGGAGCCA TTGGAAACGT ACTCAAGTTG GCTGAAGAGG CGCCCCTGCT AAGGtGTAGG 840  
 TCGCGAAAGG CGCGAGGGTT CGAATCCCTC CGTTTCCGTT ACTTGCTAAA ATGGTATATA 900  
 CCATTTTAnC TTTTTTGTTT ACTTATATAT AATGAATGAG AATTTCACTG TTCTTTTATA 960  
 25 TCAATTTTAA AATTCATAAA ACCTTTCCTA GATAATCTTC TCTAAGAAAG GTTTTTTATAC 1020  
 TTGTTGAACT TATAATTAAT TTATTACATA GCAATATTTA CCTGTTTTTA ACTATAAAAT 1080  
 TATCACTACA TGAAATACGA TAATTCGGaT CTCTTAACTT CTCTGCaATT AATGtACTCA 1140  
 30 TTGgTTTCAT CGTATGATTC ATGTATAATA GCATTTkTTA AATAATTC 1188

## (2) INFORMATION FOR SEQ ID NO: 508:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 840 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 508:

CCCAACTTCG GTTATAAGAT CCCTCAAAGA TGATGAGGTT AATAGGTTCG AGGTGGAAGC 60  
 45 ATGGTGACAT GTGGAGCTGA CGAATACTAA TCGATCGAAG ACTTAATCAA AATAAATGTT 120  
 TTGCGAACAA AAtCACTTTT ACTTACTATC TAGTTTTGAA TGTATAAATT ACATTCATAT 180  
 GTCTGGTGAC TATAGCAAGG AGGTCACACC TGTTCCCATG CCGAACACAG AAGTTAAGCT 240  
 50 CCTTAGCGTC GATGGTAGTC GAACTTACGT TCCGCTAGAG TAGAACGTTG CCAGGCATAA 300  
 TATTAATCCA CAGTAGCTCA GTGGTAGAGC TATCGGCTGT TAACCGATCG GTCGTAGGTT 360

GGCGGTAACA CGGGTTCGAG TCCCGTAGgA GTCATACAAG CAGAAGTGAA ATATCGCTTC 480  
 TGTTTTTTTTA TTACATATTT ATTGTTGAGG AAGGTTGTCC GAGCTGGCCG AAGaGCACGC 540  
 5 CTGGaAAGTG TGTAGGCGTC ACAAGCGTCT CAAGGGTTCG AATCCCTTAC CTTCCGTAAA 600  
 GGcGCTTAAA TTGGTTTTTAC CCATTTTAAG CGCTATTTTT ATTTTGGACT CAATCCCTTG 660  
 ATATATCTGC ATTTGAGCTA TTATCCTCAT TTTTACACTT CTTATTTATT TATATCCATT 720  
 10 TAAAATTTTT TAGCCACAAT GTGACTAATT TTTGaTGAAT AATCCTAATT TTAGtCACAA 780  
 GATTTTGAAG TTTAGTCACA AAACAAATCA TTCAGATTTT TTTCyATAAA TTTAGTTTCA 840

(2) INFORMATION FOR SEQ ID NO: 509:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1373 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 509:

TTCTATGAAA CTATCAGCTG TTTCTTTTTC CTTGGTAAAA ATCGTTTTTAA CGCCATGATA 60  
 CATGTATTCT CTTTCAaCAC CCGATTGGTC ATAAGCATCG AAAACACAAA TAATTTTCATC 120  
 TGAAATAACT GCAATTATAAT TTGCAATTGC ATCTATTAAT TGCAATTCTAG CTTCTTCTAA 180  
 30 ATTCTCTTTT GCAATGGCGC TTAGCGTTGG TGATTGTCCT ATCATATTGT ATCCATCAAT 240  
 GATTAAGTAA CGTTCCTTCA TTATATTTCT CCAACATCAT GTCTTTTTTCG AAATACTTCG 300  
 TACATCATTA AACTTGCTGC AACCGAAGCA TTCAAAGTGT TTACATGTCC AACCATTGGA 360  
 ATCTTAATAT AAAAATCGCA TTTATCACTT ACTAGGCGAC TCATACCCTG TCCTTCGCTA 420  
 CCAATTACAA TAGCCAATGA CATGTCCGCT TCTAGATTTT TATAATCTGT TGCATTATTA 480  
 40 GCTTCAGTGC CAGCTACCCA AAAGCCATTA TCTTTTAGTT CATCGATAGT TTTAGCTAAA 540  
 TTTGTCACTC GAATAACTGG TACATGTTCA ATTGCACCTG TTGAGGCTTT TGCAACTGTT 600  
 TGC GTTAGTG TAACTGAACG ACGTTTAGGA ATAATAACAC CATCAACTCC CGTTGCATCG 660  
 45 GCTGTTCTTA AAATTGATCC CAAGTTATGT GGGTCTTCTA AGCCGTCTAA TATAAGTACT 720  
 GTCAATAAAC CTTCTTTTTT TTTTGTCTGT TTAAAAAATT GATCGAAGTC AGCATATTCA 780  
 TATGGTGCAA TAAGCGCTGC AACACCCTGA TGTGGTG CAT TTGCTAAAAA ATCTAATTTA 840  
 50 GATTTTGGTA CAGTTTGAAC AATGATTTTT TGATCTTTTG CATTTTTTAA AATTTCATTA 900  
 ATTTGTTGCT TTTTAATACC TTCTTGAATC AATATCTTAT TTAYCGGATG CCCAGTAATA 960

TTCGTTTACT ATTGTTATTA TTTTATTTAA TAATGCCTCT AATCGTTCTT CTCTTTTTTC 1080  
TAAATAaAGA AAACCTATCA CTGCTTCTAT CkCTGAACTT TTACGATATG TTTGAACATC 1140  
5 AGTGTTTTTA GCTTTAGTAT GACTTTTCGC GTTACGCCCT CGCTTCAAAA TATCCATTTC 1200  
TTCGTCTGTA AACCATTCTT GCTCCATTAA ATATTCTAAC GTTTGCGCCT GACTTTTGGC 1260  
10 AGATACATAT TTTTtagaca TTTGATGTAG TTTATTAGGC TTACTTTTAA GCTTTAAAAC 1320  
GATATAGGTA CGTACATATT GATCTAaGAC TGCGTChCCC ATATATGCTA AGG 1373

## (2) INFORMATION FOR SEQ ID NO: 510:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 717 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 510:

TCAAGTGCCA ACTACACAAC TGATTTACAT TCTTTAGGTC AATATGTACA AGAAGGCCGT 60  
25 CGCTTCTTAT TCGAAACAGT TGTAaAAGTA AATCATCCTA AATATGATAT TACTATTGAA 120  
AAAGATAGTG ATGATCTAGA CGGATTAAAT TATTTAGCTG GTAAaACAAT CGACGAaGTT 180  
AACACAAAAG CATTCGAAGG TACATTATTA GCGCATACTG ATGGTGGTGT TCCTAACATG 240  
30 GTAGTGAACA TTCCACAATT AGATGAAGAA ACTTTCGGTT ACGTCGTATA CTTCTTCGAA 300  
CTTGCTTGTTG CAATGAGTGG ATACCAATTA GGCGTAAATC CATTTAACCA ACCTGGTGTA 360  
GAAGCATATA AACAAAACAT GTTCGCATTA tTAGGTAAAC CTGGTTTTGA AGaCTTGAAA 420  
35 AAAGrATTAG rAGAACGTTT ATAAaATACA TTACTTCAAA GATTAGTGAA GTTTGAAAAG 480  
ATAGAACTAG ACGTTAACTA TTTAAAGCAT ATTTTCGAGG TTGTCATTAC AAATGTAAAA 540  
40 ATGTAATGAC AACCTCGTTT TTATTTATAT GCAAGAACTA GGTTACTAGC TAaTGTGACA 600  
AGATGTTAAG AGAAAATTAA aGATAAAATA ATATCTGCCT TACAATAATA TTGTTATACT 660  
ACTAGnGACT GATTTATTAG CATGATTACA TGTTAATGTT TCTTTACTTA GTAATTA 717

## (2) INFORMATION FOR SEQ ID NO: 511:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2700 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

|    |   |      |
|----|---|------|
|    | AATCTAATTT TTCCTCCTAA TCTCGGATTG GATAGTGGTC AATTTTTCTG GCCCCCATT  | 60   |
| 5  | TTAGCGTTTG TTCTAACTGG GATTGGTTTA CCATTATTAG GTGTGATTGT AGGTGCACTT | 120  |
|    | GATAAGAAG GATATATTGG CGCATTAAAT AAAATTTTAC CTAAATTTTC AATATTGTTT  | 180  |
|    | TTAATCATCA TTTATTTGAC TATAGGACCA CTTTTTGCAA TACCTAGAAC TGCATCTACA | 240  |
| 10 | TCTTTTGAAA TGACAATTAC ACCAATTATA CATAGCAATA GTAGTATCGC TTTATTTATA | 300  |
|    | TTTACGATTA TCTACTTCAT AGTCGTTTTG TATATTGTT TAAATCCATC TAAGTTAATC  | 360  |
|    | GATCGTATTG GTTCATTATT AACACCATTA TTATTGATTA CTATTTTAGC GATGATTATT | 420  |
| 15 | AAAGGATACT TAGACTTTAG CGGTAATAGT GCTGGAAAGG GCAATGAAGC ACTATATCAT | 480  |
|    | TCTAATTTTT CAAGTTTTGC TGAAGGCTTT ACACAAGGCT ATTTAACAAT GGATGCCATT | 540  |
|    | GCAGCAATTG CTTTTTCAAT GATTGTTGTT AATGCAGTAA AACTAACAGG CATTACTAAA | 600  |
| 20 | ACAAATCAAA TATTCAAACA AACTTTGACT GCTGGTTTAA TTGCAGCCGT AGCTTTAATT | 660  |
|    | TTTATATATA TTTTATTAGG TTATATTGGT AATCATATGC CAGTAAGTGA CATGACGTTA | 720  |
|    | GATCAATTGA AATCCAAAGA TCGAAACATT GGGACATATT TATTAACGAC AATGGCTTCA | 780  |
| 25 | ACAGGATTTG GTTCATTCGG AAAATATTTA TTGGGCATCA TTGTGGCGCT GGCATGTCTA | 840  |
|    | ACTACAGCAT GCGGGCTTAT TGTTCAGTT TCTGAATATT TCCATAGAAT CGTACCTAAA  | 900  |
| 30 | GTATCATACA AAGCATTGTG ATTAGTTTTC ATTTTAATGA GTTTTATTAT TGCTAACCAA | 960  |
|    | GGTTTAAATG CTGTTATCTC AATGTCAATT CCGGTATTAA GCATTGTATA CCCAGTAGCA | 1020 |
|    | ATAACTGTTG TATTATTAAT TTAAATTGCC AAATTCATAC CGACAAAACG CATTTACAA  | 1080 |
| 35 | CAAATTCAG TTATTATCGT ATTTATATTG TCGATTTTCA GTGTTATTAG TAAGTTAGGT  | 1140 |
|    | TGGcTGAAAA TTAACTTTAT AGAATCATTG CCTCTAAGAG CGTATTCTTT AGAGTGGkTC | 1200 |
|    | CCAGTAGCAA TTATTGCAAC GATATTAGGC TATCTAGTCG GCATATTTGT AAAACAAGAT | 1260 |
| 40 | CCAATTAAAT ATCAACAGGA ATAACGAATA ATATAAAAGA GGTTGGGACA TAAATCCCTA | 1320 |
|    | AAAAAACAGC AGTAAGATAA TTTTCAATTA GAAAATATCT TACTGCTGTT CTCTATTTAT | 1380 |
|    | ACAATACTTC GTATTGAATG GCTTCGCTTT CCTAGGGTGC CGTCTCAGCC TCGGTCTTCG | 1440 |
| 45 | ACTGGCACTG CTCCCTCAGG AGTCTCGCCA TTAATACTAC GTATTAACGT GTAATTTTAC | 1500 |
|    | TTTGAAATAC TTTAAAAAA TAAGACACTT TGCCCAACTT GCACATAAAT GTAAAATTCA  | 1560 |
| 50 | ATAAAATAAA TTTTCTGTGT TGGATCCCTT CGTATAATTT AATAAATACT ACTAACTAA  | 1620 |
|    | ATTAACGAGG TGCCTTATGT ATAAAAATTA TAACATGACC CAACTTACAC TACCAATAGA | 1680 |
| 55 | AACTTCTGTT AGAATTCCTC AAAATGATAA TACGCGATAT GTTAATGAAA TTGTTGAAAC | 1740 |

|    |   |      |
|----|---|------|
|    | AAGATATGCA TACCGTAATG ATAGATATAG TTTTAAACGT GACTTCAAGC TATATGAATG   | 1860 |
|    | TGATGACTGT TCATCATGTT CTTTGAGACA TCAATGCATG AAGCCAAATT CGAAATCCAA   | 1920 |
| 5  | TAAGAAAATT ATGAAGAATT ATAATTGGGA ATACTTTAAA GyCCAAATTA ATCAAAAGCT   | 1980 |
|    | TTCTGAACCA GAAACGAAAA AAATCTATAG TCAAAGAAAA ATTGATGTAG AGCCTGTTTT   | 2040 |
| 10 | TGGATTTATG AAGGCTATTT TGGGTTTCAC TCGAATGTCA GTTCGAGGAA TAAATAAAGT   | 2100 |
|    | TAAACGAGAG CTAGGTTTTG TATTAATGGC ACTTAATATA AGGAAAATAG CAGCTCAACG   | 2160 |
|    | AGCTGTACAT TATAAAATAC ATATCAAAAA AGCTGATTTT TATCAAATAA TTAATAGAAA   | 2220 |
| 15 | TCAGCTTTTT TACATTGCCT AAGAATTTAA TGTCCCAAGC CCTTTTTATC GAATAACTTA   | 2280 |
|    | TTGTAAACCT TGTCTTTCCT GGTATTGTGT TTCGTTATTT TTTTCGTGTT TTTGTTTCCA   | 2340 |
|    | CTCTTTTTGA GTCATTACAT CGTCAACTTG CATGTTAACT TCAACTACAT CTAAACCAGT   | 2400 |
| 20 | AATATATTTA ACTTGTTCTT TAACTAATTC AGTTACTTTA CGGAAGATTT TTGGTGCTGA   | 2460 |
|    | TTCACCATAT TCTAAGATTA CTTTTAAGTC TACAGCAGCT TGTTTTTCAC CAACTTCAAC   | 2520 |
|    | AGATACACCT TGAGTAACAT TGTGCGCACT TGAGAATGCA TTAGTGAATG TATCAGTTAA   | 2580 |
| 25 | GCCACCTTTC ATATCTAAGA TACCTTTAAC TTCACGTGCA GCGATACCAG CAATTTTTTC   | 2640 |
|    | AACAACCTCA TCAGAGAATG TTAATTTGnT TTTGAATTGA GGCTCCTGAT TTTnGTTCTnTG | 2700 |

(2) INFORMATION FOR SEQ ID NO: 512:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1135 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 512:

|    |  |     |
|----|--|-----|
| 40 | ATCAAATACA ATAATTAAAA TAaTGGCTAA TACaCCTAAa ATaATAATcG AGTTaGAGTA  | 60  |
|    | GCCTAAGCGA yCACCcTAAC aGTArACATT CTAGGCATAT ATTTaTCTTT AGACATTGAA  | 120 |
|    | GCCGCTAACA TCGGAAAAGC TGTAaATCCA GTGTTGGCTG CTAATACCAA AATCATCAGG  | 180 |
| 45 | GTGTTGCTGT GTACAAAATA GAAGGCAGCA TTATCACCAA ATATTTGCAT AGCTAATTGT  | 240 |
|    | GATAAACTG TCGTTTCCGT TTGTGGcAAA ATTCCATAAA CATATGCTAA ACCAACGATA   | 300 |
|    | CCAACTAATA AAAACGCTAA AATTGAACCC ATAGCAATTA ACGTTTTTAC AGCATTTTTA  | 360 |
| 50 | GCACTTGGCT CTCTAAAATT GGTTACCGCA TTTGAAATAG CTTCAACACC CGTTAACGAT  | 420 |
|    | TAAGGCGCTG ATGAAAATGC TTTTAATATC AAGAATAATG TTAATCCAGG AACCAGCAGTT | 480 |

AATATTAATA TCACTAACCC TATAATGAAA AGATATACTG GATAGGATAA TACGGTGGCA 600  
 GATTCAGTTA AACCACGTAA ATTTAATATT AAAATAAAAA GTACAAGTAA ACATGCAATC 660  
 5 AGTrCkTTAT GCCCATATAA ACTTGGGAAT GCAGCAACAA ATGCATCAGC ACCAGATGAT 720  
 ATmCTAACAG CGACAGTCAG TATGTAATCG ACTAATAATG AGCCTCCTGC AAGCAATCCC 780  
 10 CATTTTTCTC CTAAATTGGT CTTGGACACC ATATACGCGC CGCCACCTTT AGGATATGCA 840  
 TAAATAATTT GCCTATAAGA CATAATTAAA GCAGCTAATA AGATCAGAAC AGCACCTGCA 900  
 ATCGGTAAAG TATACCAAGT TGCAACTGCA CCCACTACTG ATAGTGTAAT CAGTATTTGT 960  
 15 TCGGGACCGT AAGCCACTGA AGATAATGCA TCCGACGAAA GAATCGCTAA CCTTTTAAAC 1020  
 TTCGATATCT TTTCGTCTTT TAGTTCTCTG TTTTTTTTAG GTTGCCCTAT AATAAGtCTT 1080  
 TTAAATTGAT kGAcATAAtC TCCTATTCTT TTTTATAGTT TThGATGGAA ATCAC 1135

(2) INFORMATION FOR SEQ ID NO: 513:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 918 base pairs  
 (B) TYPE: nucleic acid  
 25 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 513:

30 TTATGGTAAA ACTTTAACAC AAGCATTACA TAAATCGCAA TCATTATATGT GGCAAAAACG 60  
 TTGAATTTAA GCCATTTCTA TTCATTTTAC GTAATTATTA GCCGTATATG TGTAATAATA 120  
 35 CACATTTTAT TCAGATTTTT TATCGCGCTC CATTAAATCT TTTACGCATT CTTTTACTGA 180  
 GATATTTTCA AATAATACTC TATATAATGC ATTTGTAATT GGCATATCCA CATTTTTTTC 240  
 TTTAGCTAAA TGATAAACTG ATTTAGTTGT ATAAATACCT TCAACAACCA TATTCATTTT 300  
 40 AGATAATGCT TGATCCATTG ATTCACCTTG TCCAAGTTTA TATCCTAATG TGAAATTCCG 360  
 AGAATGTGTT GATGTGCAAG TAACGATTAA GTCACCGATA CCACCTAAAC CTAGAAATGT 420  
 CATAGGATCG GCACCTAACT TTTCACCTAA TCTACTAATT TCCGCTAAGC CACGAGTCAT 480  
 45 TAATGCAGCT TTTCGATTAT CACCGTAGCC AATTCCAGCT ACGATACCAC TTGCTACTGC 540  
 GATGATATTT TTCAATGCAC CACCAAGTTC AACACCAATC AAGTCATCAT TCGTGTACAC 600  
 50 ACGCAAATAA TCATTCATAA ATAAATCTTG CGTTAATTTA CTTACACTTT TATCTTTTGA 660  
 TGAAGCAGCA ACTGTAGTTG GTTGCTTGAC TACAACTTCT TCCGCATGAC TTGGCCCTGA 720  
 CAACACGCCA ATACCTGCAT TATATTCAGG TGAAATAGAA TCTTCAATCA TTTCTGACAC 780

CAGCTTATCA TTAATTTGAG AAGCAACTTC TCGCATTGCT TTAGTAGGTA AAGCCATTAA 900  
GTAAATATCT GCAAATTG 918

(2) INFORMATION FOR SEQ ID NO: 514:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 587 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 514:

CAATACTCGG TATTATAGAT AGTCCTACTA CATTTATATG GGTTTGTATC ATTACATTAA 60  
TTGCACATCA ACTTGAAGGT AATATCATTA CACCAAATGT AATGGGTAAA TCTTTAAGTA 120  
TCCATCCTTT AACAAATTATC GTTGTTATTT TAGCAGCAGG AGATTTAGGT GGCTTTACAT 180  
TAGTTC TGAT TGCAGTGCCA TTATATGCTG TACTTAAAC GGTGTAGT AATATTTTCA 240  
AATACGCCA ACGCATTATT GATAAAGCAA ACAGTAATGT TAAGGACTAA TTCTGTGGAT 300  
GTCTTTTAAG AATATAAGAT ACTATCGCAT CAAAAGTTGA AACTACAGCT TTTGAGGCGA 360  
TTTTTTTGTG CATAAAAAAT CAGTCMAATG AAATATCAAA TAATTTTCCA TCAGTCCGAT 420  
TATTATAAAA GCAAAAAAGC TTTGCTCACA TATATAATAA CGTGAACAAA GCTGTTGAAT 480  
GATATTATTT AATTGCGTGG AATCCGCTAT CTACATGAAT ATTTTCACCT GTAACGCCAC 540  
TTGATAAATC ACTTAATAAG TAAGCCGCAG TTTTACCTAC TTCTACT 587

(2) INFORMATION FOR SEQ ID NO: 515:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 812 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 515:

GGTTCATTCC AAAAAAGTAC GCGATAATTA GCGAAGAAGA ATTTGAAAAT TTAAATGTTG 60  
TTAAACCAAA TAAAAATAAT GTTTTCTGGT CAGTTATAGG AAGTTCGGTT TTGTTTGGAG 120  
TTACTTTAAG GAAATACATA CATGTTTTTG ATGTTCAATT AGATAAGCTA GTTGTAATGA 180  
TATTGTGTGC TCTCGCTTTA ATTTGTGTTA TAGTTTTTTA TTTTAACTTA AATAGAAAGC 240  
TTAAGTTAAA AGTGTGTTGAT ACAAATATTG AAAAAATAA GAGAGTTATA TAAAwACCA 300

TTTCATTAAT TGCCCTTATG ACAATCGAAC CTCAAAATAT AATAATATTT ATTTATTGGA 420  
 TTATGATGAC AATGCTTTTC TTTTGTGTTAA ATATGACTTC GATAGGTAAT GAAAAAGTTC 480  
 5 GCGTTATAAT GAAAAATAAT TGATTACATT TAAAATATTC TAAATGTTGT CGACACAATC 540  
 CTTTTAAGAC GCTAGTAGAA TTTAAATGAC TTCTAATGTA TATGAAAGTG TATCAATATA 600  
 AAACCAATTG AAAAGAAGTG GAGACATTGC TTTGTGAAAC TGAAAATATT AATAAGAATC 660  
 10 CCAAATATAG AATTATCAAA TACAAAGATG AATATTTGAT GATTGATTTA GTAAGTACAT 720  
 GGTTAGCACT CTTTTTCCCA ATGATTAATT GGCTGATTCC AAAAAAGTAC GTCAAAATCA 780  
 GCGAAAAAGA TTTTGAAACT TTAAACATTG TG 812  
 15

(2) INFORMATION FOR SEQ ID NO: 516:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 526 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 516:

GTTCTATTAT TTCTTCCAAT GGTAATGGAT TTTCGTAAAA TGATTGATAT AAGTTGATAA 60  
 TCTCAATAAC TTTTAATTGA TCTGGAAACA TCGTTTTTTG GAACATTATA CTGCGATTTT 120  
 30 CACTTTGTAA TAACTTGTCT TTATCAAATA TCTCACCAGA ATTAGCATTA ACATTACCAA 180  
 TTAATATATC AATTAACGTT GACTTTCCAG CACCATTTTT TCCAATTAAA GCGATACATT 240  
 TACCTTGTTT AATATCGAAC GAAATATTTT TTAGAACACA TCTTTTATTA AATGACTTGT 300  
 35 TGATATTAGA TATTTGAATC AATTTAATCA CCTCTATTTT TTTCTTAATT TAATATTAGT 360  
 AAATTTATTA GATTTAAAT AGAACACTTT GTCATAGATT TGAAATGACA AATGTCATTA 420  
 TTAGATKTAC ATAATATATT TATCGTtATT TTAATTTTGG GCAAAATAAA AAGAGCCTCT 480  
 40 ATAATCGrGc TCCTTACAAA TaaATTATAA AAttGGCGAA cTAAAT 526

(2) INFORMATION FOR SEQ ID NO: 517:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 4544 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 517:

|    |   |      |
|----|---|------|
|    | GGAACACCTA AAGAAAGAAA TGATGCATTA AACACAGAGG CTGATATCTA TGTAACCAAT | 120  |
|    | AAAGAAAATA CTAAATGGTT ATGCGATCAA TATAAAAAAG AATGGCCATT TGATATGGTT | 180  |
| 5  | GTAATTGATG AACTGTCTAC ATTTAAAAGT CCTAAGAGTC AAAGGTTTAA ATCTATTAAA | 240  |
|    | AAGAAATTAC CACTCATTA TAGATTTATA GGATTAACAG GAACACCTAG CCCAAATAGT  | 300  |
| 10 | TTACAGGATT TATGGGCTCA AGTTTATTTG ATAGACAGAG GCGAAAGACT TGAGTCTTCA | 360  |
|    | TTCAGTCGTT ATCGAGAAAG GTACTTTAAA CCAACACATC AAGTTAGCGA ACATGTTTTT | 420  |
|    | AACTGGGAGC TAAGAGACGG ATCTGAAGAA AAGATATATG AACGAATAGA AGATATATGT | 480  |
| 15 | TTAAGCATGA AAGCGAAAGA TTATCTAGAT ATGCCTGACA GAGTTGATAC TAAACAAACA | 540  |
|    | GTAGTCTTAT CTGAAAAAGA AAGAAAAGTA TATGCAGAAT TAGAAAAAAA CTATATTTTA | 600  |
|    | GAATCGGAAG AAGAAGGAAC AGTTGTAGCT CAGAATGGGG CATCATTAAG TCAAAAATA  | 660  |
| 20 | CTTCAACTAT CTAACGGTGC AGTTTATACA GATGATGAAG ATGTAAGACT TATACATGAT | 720  |
|    | AAGAAGTTAG ATAAGTTAGA GGAAATTATA GAGGAGTCTC AAGGCCAACC AATATTATTG | 780  |
|    | TTTTATAACT TCaAACATGA TAAAGAAAGA ATACTTCaAA GGTTTAAGGa AGCAACCACA | 840  |
| 25 | TTaGAGGATT CAAACTATAA AGAACGTTGG AATAGTGGAG ACATTAAGCT GCTTATAGCA | 900  |
|    | CATCCAGCAA GTGCAGGGCA TGGATTAAAC TTACAACAAG GTGGGCACAT TATTGTTTGG | 960  |
| 30 | TTTGGACTTA CATGGTCATT GGAATTATAC CAACAAGCAA ATGCAAGATT ATATAGACAA | 1020 |
|    | GGACAAAATC ATACGACTAT TATTCATCAC ATTATGACCG ATAACACAAT AGATCAAAGA | 1080 |
|    | GTATATAAAG CTTTACAAAA TAAAGAACTA ACGCAAGAAG AATTGATGAA AGCTATTAAA | 1140 |
| 35 | GCAAGAATAG CTAAGCATAA GTAATGGAGG TATAAGATGG GAAAGGCATC ATACGATATT | 1200 |
|    | AAGCCAGGTA CATTTAAATA TATTGAGTCA GAGATATATA ACCTACAAGA GAACAAGAAA | 1260 |
|    | GAGATAAATA GATTGAGAAT GGAGATACTT AACCCAACGA AAGAGCTAGA CACTAACATT | 1320 |
| 40 | GTGTATGGAC CGTTGCAAAA AGGTGAACCA GTTAGAACAA CTGAACTAAT GGCAACAAGG | 1380 |
|    | TTATTGACTA ATAAGATGTT ACGAAACCTA GAAGAAATGG TCGAAGCAGT TGAAAGTGAA | 1440 |
|    | TACTTAAAGT TACCTGAAGA TCATAAGAAA GTAATTAGGC TAAAGTATTG GAATAGAGAT | 1500 |
| 45 | AAGAAGCTAA AGATAGAGCA AATAGGAGAT GCATGTCACA TGCATCGTAA TACAGTTACT | 1560 |
|    | ACTATACGAA AGAACTTTGT TAAAGCGGTA cGwtATCATG CAGGTATCAA ATAACATTGT | 1620 |
|    | GCAAAGATTG TGCAAAAGGC CTACAAATCT GTAGTAATAT GATAGTATCG GAAAGATGTA | 1680 |
| 50 | TAAAGTTATC TAAAAGTTAT ACGACACAAG TACACGAGGC ACATCGCTAT GCGtGTGTCT | 1740 |
|    | TTTGTTATGC AATCAAAGAG GTGTAAGAGA TGACCAAGCA TAATAACATT TATAAGCATG | 1800 |

|    |  |      |
|----|--|------|
|    | AGATAGCATT AGATAGGGAT AATCATCTTT GTCAAATGTG TTTACGTGAA GACATAGTAA  | 1920 |
|    | CAGATGCAAA CATAGTGCAT CATATTATTT ATGTTGATGA AGATTTTAAT AAAGCTTTAG  | 1980 |
| 5  | ACTTAGATAA TTTGATGTCA GTTTGTTATA GCTGTCATAA CAAAATTCAT GCAAATGATA  | 2040 |
|    | ATGACAAAAG TAATCTTAAG AAAATTAGAG TATTAAAAAT TTAAATAAAA AAATAATTTA  | 2100 |
|    | TTTTTATAGC CCCCTACCCA TCGGCTTAAA ATGTTTTTTC GACGGGTACC GCGGGGGGCC  | 2160 |
| 10 | CTTCGCTTGC AACGCGGATA AACTTTTATG AAAGGGGGTC TTTATATGAA ATTAACAAAA  | 2220 |
|    | AAACAGCTGA AAGAATATAT AGAGGATTAT AAAAAATCTG ATGACATATT AATTAATTTG  | 2280 |
| 15 | TATATAGAAA CGTATGAATT TTATTGTCGG TTAAGAGATG AACTTAAAA TAGTGATTTG   | 2340 |
|    | ATGATAGAGC ATACAAACAA GGCTGGTGGC AGCAATATTG TTAAGAATCC ATTAAGCATA  | 2400 |
|    | GAAC TGACAA AAACAGTTCA AACACTAAAT AACTTACTCA AGTCTATGGG TTTAACTGCA | 2460 |
| 20 | GCACAAAGAA AAaAGATAGT TCAAGAAGAA GGTGGATTCTG GTGACTATTA AAGTTTAAAA | 2520 |
|    | TGAACCTTCA CCAAACTAT TAACAACATG GTATGCAGAG CAAGTCACTC AAGGGAAAAAT  | 2580 |
|    | AAAAACAAGC AAATATGTTA AAAAGAATG TGAGAGACAC CTTAGATATC TAGAAAAATG   | 2640 |
| 25 | AGGTAAATGG GTATTTGATG AAGAATTAGC GCACCGTCCT ATTCGATTCA TAGAAAAGTT  | 2700 |
|    | TTGTAAACCT TCCAAAGGAT CTAAACGTCA ACTTGTATTA CAACCATGGC AACATTTTAT  | 2760 |
|    | TATTGGCAGT TTGTTTGGTT GGGTTCATAA AGAAACAAAA CTGCGCAGGT TTAmAGAAGC  | 2820 |
| 30 | TTTGATATTT ATGGGGCGAA AAAATGGTAA AACAACTACT ATATCTGGTG TTGCTAACTA  | 2880 |
|    | TGCTGTTTCT CAAGATGGAG AAAACGGCGC TGAAATCCAT CTTTTAGCAA ACGTAATGAA  | 2940 |
| 35 | ACAAGCTAGG ATTCTATTTG ATGAATCTAA GGCGATGATT AAAGCTAGCC CAAAGCTTAG  | 3000 |
|    | AGAAAATTTT AGACCTTTGA GAGATGAAAT TCATTACGAT GCAACTATAT CTAAAATTAT  | 3060 |
|    | GCCACAGGCT TCAGACAGTG ATAAGTTGGA TGGTTTAAAT ACACATATGG GCATTTTTGA  | 3120 |
| 40 | TGAAATTCAT GAATTTAAAG ATTATAAATT GATTTTCAGTT ATAAAAAACT CAAGAGCGGC | 3180 |
|    | AAGGTTACAA CCCCTTCTTA TCTACATTAC GACAGCAGGG TACCAACTAG ATGGACCACT  | 3240 |
|    | TGTTAATATG GTAGAAGCGG GAAGAGACAC CTTAGATCGA ATCATCGAAG ATGAAAGAAC  | 3300 |
| 45 | TTTTTACTAT TTAGCTTCTC TCGATGATGA CGATGATATA AATGATTCGT CGAATTGGAT  | 3360 |
|    | TAAAGCAAAT CCTAACCTAG GTGTTTCTAT CGATTTAGCT GAAATGAAAG AAGAGTGGGA  | 3420 |
|    | AAAGGCTAAG AGAACACCAG ATGAACGTGG AGATTTTATA ACCAAAAGGT TTAACATCTT  | 3480 |
| 50 | TGCTAATAAT GATGAGATGA GTTTTATTGA TTATCCAACA CTTCAAAAAA ATAATGACAT  | 3540 |
|    | TATTTCTTGA GATGAGTTGG AAGGTAGACC ATGTACTATA GGTTATGATT TATCAGAAAC  | 3600 |

AACACATTCT TGGATTCCTA AGCATAAAGT TGAATATTCT AACGAAAAGA TACCCTATAT 3720  
 AGAATGGGAA GAAGACGGAT TACTAACAAT ACAAGATAAT CCTTATATAG ACTACCAAGA 3780  
 5 TGTTTTAAAT TGGATAATAA AGATGAATGA GCATTATGTT GTCGAAAAAA TCACTTATGA 3840  
 TAGGGCGAAT GCTTTTAAAT TAAATCAAGA GTTAAAGAAT TATGGCTTTG AAACAGAAGA 3900  
 AAcwAGACAA GGGGCTTTGA CCTTGAGCCC TGCattGAAG GATCTAAAAG AAATGTTTTT 3960  
 10 AGATGGGAAA ATAATATTTA ATAATAATCC TTTAATGAAA TGGTATATCA ATAATGTTCA 4020  
 GCTGAAACTA GACAGAAATG GGAAGTGGCT GCCATCTAAA CAAAGCAGAT ATCGTAAAAT 4080  
 15 AGATGGTTTT GCAGCATTTT TAAACACATA TACAGATATT ATGAATAAAG TTGTTTCTGA 4140  
 CAAGGGTGAA GGAAACATAG mATTTATTAG TATTArAGAT ATAATGCGTT AAGGAGGTGA 4200  
 ATGTTATCGC AAAAGAGAAT ATTGTCACAC GCATAAGAA AAAATTGATA GACAATTGGA 4260  
 20 TTGaTCAGTC AGCTTCTAAG CTTTATGACT TTAGCCCATG GAAAAATAAA TCTTTTGGG 4320  
 GTGTAATCAA TAATACGCTT GAAACTAATG AAACGATATT TTCAGCTATT ACnAAGTTAT 4380  
 CTAATTCGAT GGCTAGTTTG CCCTTGAAAA TGTATGAAGA TTATAAAGTA GTTAATACAG 4440  
 25 AAGTATCTGA TThACTTACA GTGTCACCGA ATAATTCTCT GAGCAGTTTT GATTTTATTA 4500  
 ATCAAATTGA AACAATCAGA AATGAAAAAG GTAATGCATA TGTG 4544

(2) INFORMATION FOR SEQ ID NO: 518:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 881 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 518:

40 CATGGCAGAA TATTGAAGCT GTAAAAAAG GACATGTAAT TTCATATAAA GCAGAAGATT 60  
 ATTGGTTCAC AGATCCTATT ACATTAGAAC ATTTGAGAAG TAAATTAAAA AAAGAAATTT 120  
 TAAATAAAAA ATAATAGAAA TAAGTTGTAA AAATTTTCTT ATGCATTGGT ACTAATGTTT 180  
 45 TTAAGGAGTG ATTAAATGAA GCAACTGGTT GGAATTCCCG AATCAATGTT AATTCCTTTG 240  
 ATAGCTCGAG CAAAAGAGTA CGAAAACGAA AAACCAATAA TAAAAGACGC ACTATCAAAA 300  
 AAAATATTTG ATGGTTTAGA TGATATGTAC AAAAATGTTA CATGTGATGA CATGTCTCAA 360  
 50 ATTGGAATTA GTATACGTAC TGTGATAATA GATTGTGTTA CTAAGAGGCT TATCAAGGAT 420  
 ATCAAGAGTT TAATCGTGGT CAATATAGGT TGTGGCTTAG ATACAAGGTT TCAAAGATTT 480

ACATTTTTTTA AAGAAAGTAA TAGTTATAAG ATGATATCTA AATCTATGCT AGATTACAGT 600  
 TGGATTGATG ATGTCAAAAA TTATAAATTT TTTAATAGTA AGTCAGATAT ATTGTTTATT 660  
 5 ATTGAAGGTG TATTGatGTA TTTTGATGAG AGTGTAATGA CTCAATTATT GGACACTATT 720  
 ATCAAAAAGA TGGGAGATCA TAATTTGACA TTTGCGATTg AATTTTGCTC aAAAAACAATT 780  
 GCGAATAATA CmAAGAGACA TCAATCGGTA TCCAAGTTAT CCTCACCACC TGTTTTTTAAA 840  
 10 TATGGGTACC ATGATTTAnA AAAATTGGAT GAnATTTACC C 881

(2) INFORMATION FOR SEQ ID NO: 519:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3122 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 519:

TGAATaaAAA TATATTAATA GATAAACACA AATGTGTCCa AATACCCCTA GAGGTATTTG 60  
 25 ACnAGTTCCA TCCAAGTGT TAAATACCC CTACAGGTAT TTTTAGGGAG GTTATTATGA 120  
 AACAATACGG AGAAAaGTTT ATCGATGAAT TTAGTAAAGC AGAATTGGAA AAAGTAGCCA 180  
 AGCAAGGGCA ATTAATTGAC GTTAGAACAG AAGAGGAGTA TGCATTAGGA CATATCAATG 240  
 30 GTTCCATACT TCATCCTGTT GATGAGATTG AGTCATTCAA TAAAGAAAAA AATAAAACCT 300  
 ATTATGTAAT CTGTAGAAGT GGTAACAGAA GTGCTAATGC TAGTAAATAT TTAGCTAAAC 360  
 AAGGTTATAA CGTTATAAAT CTTGATGGTG GTTATAAAGC TTATGAAGAA GAAAACGATA 420  
 35 GTTATGATAC ACAAGAAGAA TATAAAAGTA TAGAAATTAA AGCAGATCGT AAACAATTTA 480  
 ACTATCGTGG TCTTCAATGT CCAGGGCCAA TTGTAAAAAT TAGTCAAGAA ATGAAGAATA 540  
 40 TTGAAGTAGG TGACCAAATT GAAGTCAAAG TCACAGACCC TGGATTCCCT AGTGACATTA 600  
 AAAGTTGGGT GAAACAAACA AGGCATACTT TAGTTAAGCT TGATGAAAAT AACAATGGAA 660  
 TTAATGCGAT TATTCAAAAA GAAAAAGCAA AAGATTTAGA TATAAATTAT TCTGCTAAAG 720  
 45 GTACTACAAT TGTATTATTT AGTGGAGAAT TAGACAAAGC TGTAGCAGCG TTGATTATTG 780  
 CAAATGGTGC TAGAGCTGCT GGAAAAGATG TAACTATCTT CTTTACTTTT TGGGGGCTTA 840  
 ATGCATTAAA AAAAGTGCAA ACAGTTAATG TTAAAAAGCA AGGTATTGCA AAAATGTTTG 900  
 50 ATTTAATGTT GCCCAAAAAG AATATACGAA TGCCTCTTTC CAAAATGAAT ATGTTTGTTT 960  
 TAGGAAATAT GATGATGCGC TACGTAATGA AAAAGAAAAA TGTTGATTCA TTACCAACAC 1020

|    |  |      |
|----|--|------|
|    | TCATGGGTAT TCAGAAAGAA GAACTTAGAG ATGAAGTTGA GTACGGTGGT GTAGGCACTT  | 1140 |
|    | ATATTGGTGC TACTGAAAAT GCGAATCATA ATTTATTTAT CTAATTAAAT CTATTAATAA  | 1200 |
| 5  | AAGGAGTTGT TATCATGTTT TTAAACAGT TTTACGATAA TCATTTATCT CAAGCATCAT   | 1260 |
|    | ATTTAGTGGG TTGTCAACGT ACAGGAGAGG CAATAATAAT AGACCCTGTT CGTGATTTAT  | 1320 |
| 10 | CGAAATATAT AGAAGTTGCA GATTCTGAAG GTTTAACAAT TACACAAGCT ACAGAAACAC  | 1380 |
|    | ATATTCATGC TGATTTTGCT TCAGGAATTC GTGATGTGGC TAAACGCTTA AATGCAAATA  | 1440 |
|    | TATATGTGTC TGGCGAAGGT GAAGATGCAT TAGGGTATAA AAATATGCCA TCAAAAACAC  | 1500 |
| 15 | AATTTGTTAA ACATGGAGAT ATCATTCAAG TAGGCAATGT TAAATTAGAA GTTCTGCATA  | 1560 |
|    | CTCCAGGACA CACGCCTGAA AGTATTAGCT TTTTACTCAC TGATTTAGGT GGTGGTTCAA  | 1620 |
|    | GTGTTCCGAT GGGATTATTT AGTGGTGACT TTATTTTGTG TGGTGATATA GGTAGACCTG  | 1680 |
| 20 | ATTTATCTAGA AAAATCTGTT CaAATAAAgG GTTCTACAGA AATTAGCGCG AAACAAATGT | 1740 |
|    | ATGAGTCCGT TCAAAATATT AAAAATTTAC CAGACTATGT TCAAATCTGG CCGGGTCATG  | 1800 |
|    | GTGCTGGAAG CCCTTGTTGGT AAAGCATTAG GTGCCATACC TATATCTACA ATAGGTTATG | 1860 |
| 25 | AGAAAATTAA TAACTGGGCA TTTAATGAAA TTGATGAGAC TAAATTTATT GAATCATTAA  | 1920 |
|    | CATCAAATCA ACCAGCACCA CCGCATCATT TTGCACAAAT GAAACAAGTT AATCAGTTTG  | 1980 |
| 30 | GTATGAATTT ATATCAATCA TATGATGTTT ATCCTAGTTT AGATAATAAG AGAGTAGCAT  | 2040 |
|    | TTGATCTTCG TAGCAAAGAG GCCTTTCACG GTGGCCACAC AAAAGGAACA ATCAATATAC  | 2100 |
|    | CATACAACAA AAACTTTATT AATCAAATTG GTTGGTACTT AGATTTTGAA AAAGATATAG  | 2160 |
| 35 | ATGTAATTGG AGATAAATCT ACTGTTGAGA AAGCGAAACA CACTTTACAA TTAATTGGGT  | 2220 |
|    | TTGATAAGGT AGCAGGCTAT CGTTTGCCAA AATCAGGCAT TTCAACCCAG TCCGTTTCATA | 2280 |
|    | GCGCTGATAT GACAGGTAAA GAAGAACATG TATTAGACGT ACGTAATGAT GAAGAGTGGA  | 2340 |
| 40 | ATAATGGACA CTTAGATCAA GCAGTTAATA TTCCGCATGG TAAATTATTA AATGAAAATA  | 2400 |
|    | TTCTTTTAA TAAAGAGGAT AAAATATATG TACATTGTCA GTCAGGTGTT AGAAGTTCAA   | 2460 |
|    | TTGCAGTGGG TATATTGGAA AGCAAAGGTT TTGAAAATGT GGTGAATATT AGAGAAGGCT  | 2520 |
| 45 | ATCAAGATTT TCCAGAATCA TTAAAATAAT TTAAGGATGT GGAAAAATG AATAAGCATT   | 2580 |
|    | ATCAAATTGT TATTATTGGT GGCGGTACAG CAGGTGTTAC CGTAGCATCA AGACTATTAA  | 2640 |
| 50 | GAAAAAATCA AAACTTAAAA GAGAAAATAG CAATTATAGA TCCAGCAGAC CATCATTACT  | 2700 |
|    | ATCAACCATT ATGGACGTTG GTTGGTGCG GGGTATCTAG TTTGAAAAGT TCTCGTAAAG   | 2760 |
|    | ATCAAGGATG TTTTATACCT GAAGGTGCTA ACTGGATAAA ACAGGCTGTT TCAAGTTTTC  | 2820 |

|   |  |      |
|---|--|------|
|   | TAGTAGCTCC AGGATTACAG ATTAATTGGT CTTCAATTAA AGGACTAAAA GAAAATATAG  | 2940 |
|   | GTAAAAATGG TGTCTGCTCT AACTATTTCAC CTGACTATGT TAACgAAACT TGGAACCAAA | 3000 |
| 5 | TTTCTAATTT TAAACAAGGA AATGCCATTT TTACGCATCC AAACACTCCT ATAAAGTGTG  | 3060 |
|   | GAGGTGCgCC TATGAAAATT ATGTATTTAG CTGAAGATTA TTTTAGGAAA CATAAAATCC  | 3120 |
|   | GT   | 3122 |

## (2) INFORMATION FOR SEQ ID NO: 520:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3982 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 520:

|    |   |      |
|----|---|------|
|    | ATAnAGATAT AnATnAATAT ATTGAGGTCA AACGATGATA ATTAAAATTT TAACAATTCT | 60   |
|    | ATTACTACTT TGTATATTGA GCTATTTGGT TACAAATAGA AAGAAGCCTT TTCTGTTCTT | 120  |
| 25 | AAAGACACTC TTTATGGGTG TGGTATTTAT CTTTATAGGA TATATTTTAC TGGCAATATC | 180  |
|    | TGCCGTAATT ATTTATGGTA TTATTCAATT TATCACAATT GATTTTGGTA GTTTTTTCTT | 240  |
|    | AATGGGTATT ATATTGATCT TGATTTCAG TATATTCCAA TTATTTATAG TTAGATTACT  | 300  |
| 30 | TTTTAGAAAA AAGAATGTCG ATTTGACAGA GGTGTGCGTT TTAsAsCATT TAATTCAATG | 360  |
|    | GTTCTTAGTT TACTTTGCGA TCTATCAAGC AGTAAATGAA AAAATGGACA TTAATGATAT | 420  |
| 35 | TAATATCGAC AATTTCCAAT CTGTCTTTTT TGACGTGTCT AATTTGAATT TAGTAATTCT | 480  |
|    | ACCAACGTTA ATCATTAGCT GGGTCACAAT ATTTAACTAT AGAATGAGAA GTTACAAATA | 540  |
|    | AAATCTATGA GATTATACCT TCAGACACCA ACATTCAAAT GGTGTCTTTT TTGTTGTGTG | 600  |
| 40 | GTATTATTTT TGAAATTCGA AAAAGTAGAG GCATGAATTT TTTGACTAGT GTATAAGTGC | 660  |
|    | TGATGAGTCA CAAGATAGAT AGCTATATTT TGTCTATATT ATAAAGTGTT TATAGTTAAT | 720  |
|    | TAATAATTAG TTAATTTCAA AAGTTGTATA AATAGGATAA CTTAATAAAT GTAAGATAAT | 780  |
| 45 | AATTTGGAGG ATAATTAACA TGAAAAATAA ATTGATAGCA AAATCTTTAT TAACATTAGC | 840  |
|    | GGCAATAGGT ATTACTACAA CTACAATTGC GTCAACAGCA GATGCGAGCG AAGGATACGG | 900  |
|    | TCCAAGAGAA AAGAAACCAG TGAGTATTAA TCACAATATC GTAGAGTACA ATGATGGTAC | 960  |
| 50 | TTTTAAATAT CAATCTAGAC CAAAATTTAA CTCAACACCT AAATATATTA AATTCAAACA | 1020 |
|    | TGACTATAAT ATTTTAGAAT TTAACGATGG TACATTGCAA TATGGTGCAC GTCCACAATT | 1080 |

|    |                        |             |                         |                        |             |            |      |
|----|------------------------|-------------|-------------------------|------------------------|-------------|------------|------|
|    | TCAAAATCTT             | GTGAGAGAAT  | TTGAAAAAAC              | ACATACTGTC             | AGTGCACACA  | GAAAAGCACA | 1200 |
|    | AAAGGCAGTC             | AACCTTAGTTT | CGTTTGAATA              | CAAAGTGAAG             | AAAATGGTCT  | TACAAGAGCG | 1260 |
| 5  | AATTGATAAT             | GTATTAAAAC  | AAGGATTAGT              | TAAATAAAAC             | TTCAATCGTT  | GCTGTTATCT | 1320 |
|    | GGAAATAATT             | AATTAAATGT  | TATGTTAATT              | TTTGTTAATG             | AAAAAAGTAA  | TCTATTTAAT | 1380 |
|    | GACAGGTTAA             | TGTAATTGTC  | CTGAAATTGA              | CTATATACTC             | AGTAAGTATC  | AATTTTAAGG | 1440 |
| 10 | AGAGCTTATA             | ATGAAATTTA  | AAAAATATAT              | ATTAACAGG <sub>a</sub> | ACATTAGCAT  | TACTTTTATC | 1500 |
|    | ATCAACTGGG             | ATAGCAACTA  | TAGAAGGGAA              | TAAAGCAGAT             | GCAAGTAGTC  | TGGACAAATA | 1560 |
|    | TTTAACTGA <sub>a</sub> | aGTCAGTTTC  | ATGATAAACG              | CATAGCAGAA             | GAATTAAGAA  | CTTTACTTAA | 1620 |
| 15 | CAAATCGAAT             | GTATATGCAT  | TAGCTGCAGG              | AAGCTTAAAT             | CCATATTATA  | AACGTACGAT | 1680 |
|    | TATGATGAAT             | GAATATAGAG  | CTAAAGCGGC              | ACTTAAGAAA             | AATGATTTTCG | TATCAATGGC | 1740 |
|    | TGATGCTAAA             | GTTGCATTAG  | AAAAAATATA              | CAAAGAAATT             | GATGAAATTA  | TAAATAGATA | 1800 |
| 20 | ATAAATAAAA             | CAGGTTGAGA  | CAAAAAATGG              | TCTTAACCTC             | TTTTCAATTT  | GCATATGTGA | 1860 |
|    | TAAATTCTAT             | ATCAAAATGC  | TTATGTATAA              | TGAATGACAT             | TTAAAAGTAG  | GGGAGACAAA | 1920 |
| 25 | TATAAATACA             | ATAGTTCCTA  | GGATTACTCT              | CAAAATAACT             | ATATCAATTA  | TTTACTTTGC | 1980 |
|    | TCTCCTATTT             | TTTAAAATAT  | GTACATGTTT              | AAACAATCAA             | AAGTGACAA   | TATTAAATTA | 2040 |
|    | TCATTTCCAG             | TTCTAGTGCT  | ATATTGGTAG              | TAGTTGACTA             | AATGAAAATA  | AGCTTATAAC | 2100 |
| 30 | AAGTTTTTTC             | AATACTCGTG  | GGGCCACAAC              | AGAGAGAAAT             | AGGATCACCA  | ATTCCAACAG | 2160 |
|    | ACAATGCAAG             | TTGGCGGGGC  | CCCAACATAG              | AGAAATTGGA             | TCACCAATTT  | CAACAGACAA | 2220 |
|    | TGCAAGTTGG             | GGTGGGGCCC  | AACACAGAAG              | CTGGCGAAAA             | GTCAGCATAC  | AAAAATGTGC | 2280 |
| 35 | AAGTTGGCGG             | GGCCACAACA  | GAGAGAAATA              | GGATCACCAA             | TTCCAACAAA  | CAATGCAAGT | 2340 |
|    | TGGCGGGGGC             | CCCAACATAG  | AAGCTGGCGA              | AAAGTCAGCT             | TACAAAAATG  | TGCAAGTTGG | 2400 |
|    | CGGGGCCCCA             | ACATAGAGAA  | ATTGGAACCC              | CAATTTCTAC             | AGACAATGCA  | AGTTGGGGTA | 2460 |
| 40 | GGACATCGAT             | AAAGAAATAC  | TTTTTCTTTA              | GCAATTAGTA             | TTTCTTATGC  | ATGAGCTTTA | 2520 |
|    | CTCATGTATT             | CATTTTTTTAA | GTAC <sub>a</sub> CATTA | GCTACAGCTA             | ATGATAAAGA  | ACCACTACAT | 2580 |
| 45 | AATAAATCAT             | TAGTGGTTCT  | TTATCATTTT              | TATCTCACTC             | TTTTACTGGA  | AGAAAAAGTT | 2640 |
|    | TACGTTTGTA             | GAACATGCCA  | CAATACCCAA              | AATAATTAAG             | AAAAATAAGA  | CGATAAGCAT | 2700 |
|    | GATGACACTT             | TTCAAACAAC  | CTCTATCAGT              | TTCTTTTCGAT            | TTTCTTTGTT  | GAACCTTTTT | 2760 |
| 50 | ATAATCTTCA             | AGTAGTTTTG  | CGGCTTTTTT              | ATTTATATGT             | TTATTCATGA  | TGTTGACTCC | 2820 |
|    | TTATAATATA             | TGTTTAATTC  | ATTAAAATAG              | TTGAAAACAT             | GACTTGAAAT  | AAAGATATAA | 2880 |

AATTTGATGA TGATATTTGC TTTTATTTT CCAAATGGAA TTTACTTAAA CTGATGCATT 3000  
 AAAATATTAA TGAAGCACTA GAATACATAA ATGAATAGTa ATGGTGcACA GTATAGAATA 3060  
 5 ATTAAGGCTA TATTAAGTAT AAATATCGTT AACTGTAAGC TATCTTTAGT TTTAATATAA 3120  
 ACTATTAGGA TAATCGACGT AAGAAGAATC ATATATATTA ATGATGAAGA AGTCCATACA 3180  
 AAATCCGCAT CATTGTGTGT TAATAATGGG ACTATAATTA ATCCGAAATT AATCATGCAT 3240  
 10 GCTATATATA CTATAATGTT ATACACAATG TTAATTTTTG TTCACCACCT TATACTTCTA 3300  
 TTTTAAAAAC TTCTTTATAA TGATATATTG TTTAATGTTG AAATAATTAG ATTATCTAAT 3360  
 TTTCAATTTGC TTTACATGTA AAAGGCTATA TATAGTATGC TCTTTATGAT TCTAAATGCT 3420  
 15 TTTTAATATT TAATGCTCAT CAACATTTGG ATTTTGAATA TTCAATTCAA AAACCTTTATT 3480  
 AGCTACGTCA ATTGTAAAT CAGAACCATA GTTGACATGA GCTACTTTTA ATTTTCCATC 3540  
 TAAATAATAG ATTGCGATTG CAACATCGTA AAATTCGTCA ATGACAAATA AACTCTTTTC 3600  
 20 GTTTGTTACA ACCTCATGCT CTCCTGAGTA TACAACGTTA ATTTCCCAAT CATTAAAAAC 3660  
 CATTTGTTAA CCTCCTTGAA CATTTAAATT GATTCAACTT AAGTTTAACT TATTCATACA 3720  
 ACTTCGTACA ATATCTAGAT GAACATTAAT TGTATTTCTA GAAATCTTTT TCAATTATAT 3780  
 25 GTACTAATTA TACTTTTTAA TTTCTTATTT CAGTATAGTT TTAACCGAT TTTAAATAA 3840  
 TTCTGCAAAT ATATTAACAC ATAATGTGTT CAAAAGTTT TGAACAATTT CAAAACCTTT 3900  
 30 ATATAAAGGG nTTGACAACA TGGATTCAAA TnTCTTATTT TAAAAATTAC CTCATATAGT 3960  
 GTCATGTTAG CCAATTTTTA AG 3982

## (2) INFORMATION FOR SEQ ID NO: 521:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1353 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 521:

AGCTTGaTG ATTTAAAtG GtCcTtTCCC AaCcTtTAGAT AATGAAAGAT tTGATAATCC 60  
 45 TGAATATAAA GAAGCTATGA AAAAAATAcA ACAGAGATTT ATGGCTGmAG ATGAGGCTTT 120  
 GAAGAAATTT TTTAGTGAAG AGAAAAAAT aAAAAATGGA AATACTGATA ATTTAGATTA 180  
 50 TCTAGGATTA TCTCATGAAA GATATGAAAG TGTATTTAAT ACTTTGAAAA AACAAAGTGA 240  
 GGAGTTCTTA AAAGAAATTG AAGATATAAA AAAAGATAAC CCTGAATTGA AAGACTTTAA 300

GTTAGGTAAA ACATTTTATC AAAACTATAG AGATGATGTT GAAAGTTTAT ATAGTAACTT 420  
 AGATTTAATT ATGGGATATA AAGATGAAGA AAGAGCAAAT AAAAAAGCAG TTAACAAAAG 480  
 5 GATGTTAGAA AATAAAAAAG AAGACTTAGA AACCATAATT GATGAATTTT TTAGTGATAT 540  
 AGATAAAACA AGACCTAATA ATATTCCTGT TTTAGAAGAT GAAAAACAAG AAGAGAAAAA 600  
 TCATAAAAAAT ATGGCTCAAT TAAAATCTGA CACTGAAGCA GCAAAAAGTG ATGAATCAAA 660  
 10 AAGAAGCAAG AGAAGTAAAA GAAGTTTAAA TACTCAAAT CACAAACCTG CATCTCAAGA 720  
 AGTTTCTGAA CAACAAAAAG CTGAATATGA TAAAAGAGCA GAAGAAAGAA AAGCGAGATT 780  
 TTTGGATAAT CAAAAAATTA AGAAAACACC TGTAGTGTCA TTAGAATATG ATTTTGAGCA 840  
 15 TAAACAACGT ATTGACAACG AAAACGACAA GAACTTGTG GTTCTGCAC CAACAAAGAA 900  
 ACCAACATCA CCGACTACAT ATACTGAAAC AACGACACAG GTACCAATGC CTACAGTTGA 960  
 20 GCGTCAAACCT CAGCAACAAA TTATTTATAA TGCACCAAAA CAATTGGCTG GATTAAATGG 1020  
 TGAAAGTCAT GATTTTCAAA CAACGCATCA ATCACCACAA ACTTCAAATC ACACGCATAA 1080  
 TAATGTTGTT GAATTTGAAG AAACGTCTGC TTTACCTGGT AGAAAATCAG GATCACTGGT 1140  
 25 TGGTATAAGT CAAATTGATT CTTCTCATCT AACTGAACGT GAGAAGCGTG TAATTAAGCG 1200  
 TGAACACGTT AGAGAAGCTC AAAAGTTAGT TGATAATTAT AAAGATACAC ATAGTTATAA 1260  
 AGACCGAATA AATGCACAAC AAAAAGTAAA TACTTTAAGT GAAGGTCATC AAAAACGTTT 1320  
 30 TAATAACAA ATCAATAAAG TATATAATGG GCA 1353

(2) INFORMATION FOR SEQ ID NO: 522:

(i) SEQUENCE CHARACTERISTICS:

- 35 (A) LENGTH: 1987 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 522:

GTCTGAGTCA GGTGCTGTTT GGTTAGATGC TGAAAAACA AGTCCTTATG AATTTTATCA 60  
 45 ATTCTGGATT AATCAATCAG ACGAAGATGT AATTAAATTC TTAATAACT TTAATTTCTT 120  
 AGGAAAAGAA GAAATTGATC GCTTAGAACA ATCTAAAAAT GAAGCACCGC ATTTACGTGA 180  
 AGCTCAAAAA ACATTAGCTG AAGAAGTAAC TAAATTTATT CATGGTGAAG ATGCATTAAA 240  
 50 TGATGCAATC CGTATTTTAC AAGCATTATT TAGTGGTGAT TTAAATCAT TATCAGCGAA 300  
 AGAATTAAAA GATGGATTTA AAGATGTGCC TCAAGTGACA TTATCAAATG ACACAACAAA 360

|    |  |      |
|----|--|------|
|    | TGTTAACAAT GGTGCGATTT ATATTAATGG TGAGAGACAA CAAGATGTTA ATTATGCTTT  | 480  |
|    | AGCACCAGAA GATAAAATTG ATGGCGAATT TACGATTATT CGTCGCGGTA AGAAAAAATA  | 540  |
| 5  | CTTCATGGTT AACTATCAAT AAATATAATT GCATAGCTAA ATAAATTAGA GCCTACTCAT  | 600  |
|    | ATTCAATTCCT AAGAATGTAA TGAGTAGGCT CTTAATGTAC TTTTCTGTCT GTAAATTATC | 660  |
|    | TAAAGAAATC TCTATCGCCT TGGCCAGGTG ATTGACGTTT TGATCGGCTT TGACGTTTTG  | 720  |
| 10 | GTTGTTCTTT TTGTTGTTTT AATTTCACTT TAACTTCTTT TGTTTTACCA TCACGGATAA  | 780  |
|    | CGGTAACAGT GACTGATTCA CCAGGTTTTT TATTTTCATA TAAATAGCTT CTTAAATCAA  | 840  |
|    | CATCATCTTT AATTTTCTTG CCATCAATTT CTGTAATAAT ATCACCTTTT TTAAGATCAA  | 900  |
| 15 | TATCACTATC AGCTTTGGCG ACATAAATAC CGTCTTCTCT ATCAGTATGA AGTTGCTCGC  | 960  |
|    | GCTCTTCTTC AGGAATATCT TTCAAATTAA TTAAACCAAT ACCAATCGAA GGGCGGTCAA  | 1020 |
| 20 | TTTTACCATG TTTTACAAGT TGTTCAATTG TTACTTTAAC TTCATTACTT GGAATAGCAA  | 1080 |
|    | ACCCGATACC TTCAACTTGT GTCGCAGCAA TTTTCATTGA GTTAATACCA ACTAAATTAC  | 1140 |
|    | CATTAATATC TACTAATGCG CCACCTGAGT TACCTGGGTT AATAGCAGCA TCTGTTTGAA  | 1200 |
| 25 | GAACGCTAAC TTTTGTATTG CCACCAGTTG TCTCAGCGTC AATCGTACGT TCGCTTGCTG  | 1260 |
|    | AAATGATACC AGATGTTACA GAGTTAGCAA ATTGTAATCC TAATGGGTTA CCCATTGCGA  | 1320 |
|    | ATACGCTATC GCCAGTTTGT ACTTTTGAAG AGTTGGCAAA TTGAATCGCT TTAATACCTT  | 1380 |
| 30 | TTGTATTTTC AATTTTAAGT ACAGCAATAT CAGTTACTGc ATCTTTACCA ACTAATTTCTG | 1440 |
|    | CTTTAACTTG TTTTTTATTA TGTAATTGGa CTCTAATTTT ATTTGCGCCA TCAATAACAT  | 1500 |
|    | GATTGTTTGT AACGATATAA GCTGAATTGT TGTTTATTTG aTAGATAACA CCTGAACCTA  | 1560 |
| 35 | CTCCAGCTTC AGATGGTTTA GATGATTTGC CyTTTAATAA GTCGTCTACA CTTGATGCTT  | 1620 |
|    | TTtGCATGk AATAACTCCA ACAATTGTAG GGGAGACAGA TTTTATCATT TCATGAACGG   | 1680 |
|    | TACCGAATTT CTTGCTTTGA CCGTCTAATT GATTGCCACC TTTATTATTT GTTGTCTGAA  | 1740 |
| 40 | CAGTTGAACC ATCTTTATTT AAAATTGTAC TATTTAATAC TTTGCCTATA CCAAGTACTA  | 1800 |
|    | GAAGTGCACC AATAATTCCA GCAATCAATG CAACGATGAC TGThTTAAAC CATGGAAATT  | 1860 |
| 45 | TAGGTCTTCT GTATCTAGGT GTTTGGCTAT GGTTTGTGT AGAATGATCT GTATGATTAA   | 1920 |
|    | AATCTGACAT ACTTAACCTC CATTATATGA TTTATATATG CTTTAATTAT GTCTTTThTT  | 1980 |
|    | TATAATT  | 1987 |

(2) INFORMATION FOR SEQ ID NO: 523:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1351 base pairs

(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 523:

|    |   |      |
|----|---|------|
|    | TTAGAAGTCA AATCATTaTt GCGGTChTAT CGAGTATACT ATTAACTTCA ACTATTTTAg | 60   |
| 10 | CAATTGCATA TATTTTAATG TGGTTTAACG GCCATATGAC aCTAACTTTG ACCTTAACGA | 120  |
|    | CAATAATTAC AAGCTGTTTA ACCTTATTAA TATGTAGTAT TTTTATTaAT CCACTTATAC | 180  |
|    | AAAAAATTAA GCAGTTTAAT ATAAAACTA AGCAATTTGC TAACGGAAAT TACGCAAGCA  | 240  |
| 15 | ATGATAAAAC GTTTAATTCA CCAAAAGAAA TTTATGAATT AAATCAATCT TTTAATAAAA | 300  |
|    | TGGCTTCTGA AATTACGCAA CAAATGAATC AAATTAAATC CGAACAACAA GAAAAAACAG | 360  |
|    | AACTGATTCA AACTTAGCC CATGATTTAA AAACACCTTT AGCAAGCATT ATTTcATATT  | 420  |
| 20 | CTGAAGGACT ACGTGATGGT ATAATCACTA AGGATCATGA GATTAAAGAG TCATACGACA | 480  |
|    | TATTAATTAA ACAAGCAAAC AGATTATCAA CATTATTTGA TGATATGACT CATATTATCA | 540  |
|    | CTTTAAATAC AGGTAAAACA TATCCCCCAG AATTAATACA ACTAGACCAA TTACTTGTAT | 600  |
| 25 | CAATATTGCA ACCATATGAG CAACGTATCA AACATGAAAA CCGCACATTA GAAGTGAATT | 660  |
|    | TCTGTAACGA AATTGATGCA TTTTATCAAT ATCGAACGCC ACTTGAGCGT ATTTTAACAA | 720  |
|    | ACTTACTTGA TAATGCGCTA AAATTTTCAA ATGTTGGTAG TCGCATTGAT ATTAATATTA | 780  |
| 30 | GTGAAAACGA AGATCAAGAT ACTATCGACA TTGCTATTAG CGATGAAGGT ATTGGCATTa | 840  |
|    | TACCAGAACT ACAAGAACGT ATATTCGAAC GTACATTcAG AGTAGAAAAC TCTCGTAATA | 900  |
| 35 | CAAAAACGGG TGGTTCTGGA TTAGGCTTAT ATATAGCTAA TGAActCGCG CAACAAAATA | 960  |
|    | ACGCAAAAAT CAGTGTAAGC AGTGATATAG ATGTAGGAAC TACGATGACT GTAACATTAC | 1020 |
|    | ACAAATTAGA CATTACGTCA TAATCCGATT TATTTATAAA ATAAATGCA AAGACTAAAA  | 1080 |
| 40 | AGAAGCTCCC ATTAATGAGG GCTTCTTTTT TTGTTTATTT AGAATAAACT TTATGGGTAT | 1140 |
|    | CCTTCTCATC ATTTTCAAGA CTTGAAAGAT TTGTAGCTTG AATAATATAT TTAGGACGTG | 1200 |
|    | CCTTAACTTC ATAATATATC CTGCCAATAT ATTcACCTAC AACACCAATT GAAATTAACT | 1260 |
| 45 | GTATGCCGCC TAATAATAAA ATAGCTGCAA TCGTTGAAAA ATATCCCGGA ATATTAACAC | 1320 |
|    | CAGATATCAT AATATTGATG GAATAAATAG A                                | 1351 |

(2) INFORMATION FOR SEQ ID NO: 524:

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(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 433 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 524:

5 TTGTTGTCTAG TTTAACGCAA CGTGTACCG ACTTTTCAAG TACACAACAA TATATATGTC 60  
 TATTCCATTT TTAGCCCCcTG CCATTTTCAT CATTGGTGGT ATTATGTTGT TTATTTCAAC 120  
 ATTTAATAGC TTAGATGAAA CTGCTGAAAA TAATAACAAA ATAAAGAAAC TAATGATTAA 180  
 10 AGGACTTATC ATTATTAACA TTTCATTTAT CGTTATGATG GTTTTAACAC CATATTGGTA 240  
 CTTGTATTTA ATCGTCTATC TTATTTTCTT GTTGTTTTTT TTGTGGCAAA AGGTTTATAA 300  
 ATTTTAATAC CAAACTATT AAACACTTCT GATATTCTTA GTTCAAATA TCAGAAGTGT 360  
 15 TTTATAGTGT TATCTAGTTC AGATAAATAT TTCCTTACTT AAAAAACGC CCTCCTCTTA 420  
 TTTTGACCCC nAT 433

## (2) INFORMATION FOR SEQ ID NO: 525:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1845 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 25 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 525:

30 CCCCCACTAT GATATGCTTG GCCTATTGCG TCAATCCCCT TATATTTCTG CAATAGAGAT 60  
 GGATGTATAT TCAATATTTT ACCTTCAAAT GAAGCTAATA AGTCTGGACC AATTAGACGC 120  
 ATGTAGCCAG CTAGAATAAT CCACTCTACC TTATCTTCAT TTAATAATGT TACTAAATGT 180  
 35 TGTTCATACG CTGCTTTTGA ATCAAATTGT TTTGGTTCAT TAATATAAAC AGGAATATCG 240  
 TGCTTTTTTG CTCTATCTAT ACAAACGCA TTTTGATGAT CCGTATATAG CGCCGTAAC 300  
 TCAATATTTT CAAGTTTTCC TGATTCAACA TGCTCAACTA TATTTKCAA GTTACTTCCT 360  
 40 GAACCTGATG CAAAATCGC AATTTTAACC ATTGTTATAC CCCCAACAAT TCAATTGCAG 420  
 TTGACTCATT TTTCACAATA TGACCAATTT GATAGGCTTC CACATTTTGT TCTGCTAAAA 480  
 TCTTCAAAGC GCGTGATACA TCTTTTTCAT CAACGATAAC CGTATAGCCA ATACCCATAT 540  
 45 TAAAAATGTT ATACATTTCA TTTGTGTCTA TATTGCCTTG TTGTTGTAAC CAATCAAATA 600  
 TTTTGGTGT TGGAAATGAT GTAGTATCAA TTCTAGCAGC ATATCCGGCT GGCAATGCAC 660  
 GTGGAATATT TTCATAAAAA CCTCCACCAG TAATATGATT CATTGCCTTA ATAGAACTT 720  
 50 CTTTTTTCAA AGCAAGTACA GGTGTGACAT ATAATTTAGT TGGTTCTAAA AAGACATCGA 780

GCACTAAACT GTATCCATTT GAATGAATGC CACTTGACGC AAGCCCTATA ACAACTTGTC 900  
 CCTCTTTCAC TTCTGAACCA TCTACATAGT CATCCTTTTC AACTGCTCCA ACAGCAAATC 960  
 5 CAGCTACATC ATATTGCGCT TCGTGATACA TTTCACCCAT TTCAGCAGTC TCTCCACCGA 1020  
 TAAGTGCAGT ATTCGTTTCA ACACATGCAT CACTAATACC TTAAACAATT TGTTCAATAA 1080  
 CTTCAGGAAC AACTTTGTTT GTAGCAATGT AATCTAAAAA ATATAATGGT TCTGCACCTG 1140  
 10 TCGTTAAAT ATCATTAAAC CACATTGCGA CTGCATCGAT ACCTATCGAA TCATGTTTAC 1200  
 CATAGTCGAT AGCTAGTTTT AATTTTCGTAC CTACTCCGTC TGTTCCAGAA ACTAAACTG 1260  
 GCGCTGtCAT ATTTAATTGT GATAAATCAA ATGTAGCACC GAATCCACCT AAACCACCGA 1320  
 15 TAACTTCTTT ACGCATCGTA CGtTTAACaw GaCtAGaCaT TctTTcTACA GCTTCATAAC 1380  
 CAGCATGAAT ATTTACACCA GATTGTTTAT ATGCTTTAGA CATTTAAATT TCCCTCGCTA 1440  
 20 TCAAAAAAGT GTTTGTTTTT AGAAATATAT TGCTTTTGTC GATGACTTAA ATGCGCTTTA 1500  
 TAATTTGCTT CATAATCATA TAACCCTGCA GGATAATCTC CAGTGAAACT TTCTACACAT 1560  
 AAGCCACTAT ATGGCGCGTC ATAATCTAAA CCAATTGATT CAATTAACCC ATCTACAGAT 1620  
 25 AGATATGCTA ATGAATCAGC GCCAATATAA TCTTTAATTT CTTCAGGTGA TTTGCTTGCA 1680  
 GAAATTAATT CTGCCGTAGT TGAAACATCG ATTCCGTAAA AACTTGGAAT CATAAATTCC 1740  
 GGTGATGCTA TACGCACATG CACTTkATTT GCACCAGAAT CkTTTAACAT TTTACAATG 1800  
 30 CGTCGAATTG TCGTACCGCG nACAATGGAA TCATCAACAA GACTG 1845

(2) INFORMATION FOR SEQ ID NO: 526:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1141 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 526:

TCATAAATnG TAAATGTTAA TCGTCATATA ATATTAATTT ACAACACCAT TTTGGTTATT 60  
 TGAAGCTTGT GCGGCTTGTT GTGTGCCACC TTGATTTTGA TTTGAGTTTT GATCTGTAGC 120  
 45 AGGTTGTTGT TGATTGCTGG AmtCACTGTT ATTAGTTGAm TCACTGTTCT CGTTAGATGT 180  
 CTTATCTTTA TCTGTGCTAT CATTTTGTTT TTTTCTCAAT AACTATTAT CTAAAGGCGT 240  
 50 TAATGGTATT AATGAACCAT AATGATTAAT GACACGTTGA TCTAAGAAAT CATTTTTATC 300  
 ATTAATAGGT GATAATTCTA AGTCTTTACG AAGTAAGTTT GCATATTTTT GAATGCTTTC 360

AGTTTAAATT TCAACATCAT TTGTTaAGTA CATTMTTGCT AAAGCTTTAA TTTCAGAGTT 480  
 AGTTAAATTA TGCTTTGCAT TTTTACCTAC AATTTGAATC ACGTTATCAA GTTTATCAAT 540  
 5 AGAATCAACT TCCTGTGCTT TTTGGAATAA AATCTTAATT AATTCCATTT GACGTTGTCC 600  
 ACGTTTTAAG TCTGAATCAT GATGTCTAGT TCTAGCAACT GCTAAAGCCT CATCACCATT 660  
 10 TAATTTTTGG TACCCTTTTT TAATTTTAAT CTTACCAGTA TCATCTGTGT TAGGTTTATT 720  
 TAAGTCGTAT GGCACATCAT AGTATATGCC ACCAAGCTCA TTTACAGCCT CGACAAATGC 780  
 TTTTCATATTG ACTCTCACAT AATAATCAAC AGGTACATTC ATGGTAGCTT CTACCGAATC 840  
 15 CATTGCGGCA ATTGGACCAC CATATGCATG TGCATGGGTA ATCTTATCGT AATAGCCAAC 900  
 TTTAGGAATG TAGCTGATAG TATCACGTGG AATACTAAGC ATTCTAATTT GATGTTTTGA 960  
 TTGATTAAAA GTAGTTAAAA TCATAGCGTC TGATCTAGAG TGTTTCAGCAT CCTGTCCTTT 1020  
 20 TTTTCTTCTT CCATCGTTAT CATCGATACC TAAGAAAAGA ATAGAGATAG GTTGTCTCTC 1080  
 GGGATGACTT TATTATCTCT TAAGTTGGAT TGACGTTAGC ATTTTGTCTG TCTTGAGAAG 1140  
 A 1141

(2) INFORMATION FOR SEQ ID NO: 527:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1565 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 527:

GCACCATTAG CATTGGGcnc ACTGATTGGA GTAnCAGTTG TTGAAAATTC GGCGCCAACA 60  
 AGTAAACmGG CmCaGGCaGC mATAmCCCCa TATTATAcTT ATAATGGTTA TATTGGTAAT 120  
 40 AATGCTAATT TTATTCTGGA TAAGAAATTT ATTAACGCGA TTAAGTATGA TAATGTGAAA 180  
 TTCAATGGTA TTAAATTAGC TAAAACGAAT ACGATAAAAA AAGTAGAGAA ATATGATCAA 240  
 ACTTTTAAAG GTGTTTCTGC AAAAGGAAAC GAAGCAAGTC AATTGCAATT TGTAAGTAAA 300  
 45 AATAATATTT CATTAAAAGA TATCCAAAAA GCTTATGGCA AGGACTTGAA AAAAGAAAAT 360  
 GGTAAAACAA AGGAAGCTGA TAGCGGTATT TTTTACTATC AAAATGCTAA AAAGACATTA 420  
 GGCATCTGGT TTGTCGTTGA TCATAATAGA GTTGTGGAAG TAACAGTTGG ACATACACCA 480  
 50 TACAAAACAA GTAAATAAAA TAATGGCATA TTAAGGCTAG AGTGTGAGGA GTGATACCGC 540  
 ATTCTAGTCT TTTTATTAA ATAATAACGA TTATTGCGTC TTACATAGTT GTTTGAAATT 600

GATTAAGTAT ATAGAGCACT ATTTTGTATT TGTTAATATT TTCACAAAAA TAAAGCCTTG 720  
 ATAAATTTTA AAATATAATT AAGCTCAATT TTTAAAATTT TATTTAGCTA CAGATAACAT 780  
 5 TTTTAAAAAA GAAAAGAATC AATAAATAAA ATCAACGAAC AAAAAGTATA GAAATAAATA 840  
 GAAATAATCA TTTACTTTTC TGAAAAATTA AATTAATATT TTATTTATAA GCTGTTTTTA 900  
 AGATTTTCAGG AGGAATGAAA TGTGaGGAAA TTTTCAAGAT ATGCATTTAC AAGTATGGCA 960  
 10 GCATTAACCT TGTGAGCAC TTTATCACCA GCAGCATTAG CGATTGATTC AAAAAATAAA 1020  
 CCAGCTAATT CTGATATTAA ATTTGAGGTG ACTCAAAAGA GTGATGCGGT CAAAGCATTa 1080  
 AAAGAATTGC CTAAATCCGA AAATGTAAAA AATATTTTATC AAGATTACGC TGTTACTGAT 1140  
 15 GTAAAACTG ATAAAAAAGG ATTTACGCAT TATACATTGC AACCGAGTGT TGATGGTGT 1200  
 CATGCACCTG aCAAAGAAGT GAAAGTACAC GCAGACAAAT CAGGAAAAGT CGTTTTAATC 1260  
 20 AATGGGGATA CTGATGCGAA GAAAGTAAAG CCAACGAATA AAGTGACATT AAGTAAAGAT 1320  
 GACGCAGCCG ACAAAGCATT TAAAGCAGTT AAGATTGATA AGAATAAAGC GAAAAATCTT 1380  
 aAAGATAAAG TCATTAAAGA rAACAAAGTT GAAATCGATG GTGACAGTAA TAAATACGTT 1440  
 25 TATAATGTTG AGTTAATTAC AGTGACACCA GAAATTTTAC ATTGGAAAGT TAAAATTGAT 1500  
 GCTCAAACCTG GCGAAATTTT AGAAAAAATG AACTTAGTTA AAGAAGCTGC AGAAACTGGT 1560  
 AAAGG 1565

(2) INFORMATION FOR SEQ ID NO: 528:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 2870 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 528:

GGATAGGTAA ATCCATTCAA AATTGGTTGT ACTCATTTTA AATCATATTT TTTAATATAG 60  
 AAACACATAA TTAAAGGAGT GATGATATTA ATGAATAAAC TTCGAGACAC TACTTTTCTA 120  
 45 TCATATTTAT TTAATATCAT ATTGTGGGGA TCTGCATTTT CAATGATAAA GATTGCGTTA 180  
 AATGATTTTA GTGCAGAATC ATTGTCGGCA TTTCGTTTAA TTTTAGCAAC AATAATTCTC 240  
 TTGCCGTTTC TAATTATAAA GAAATTGCCT ACCCCTGAAC TAAGAGATAT CCCTGTTATT 300  
 50 TTTATTTTAT GATTTTGTGG ATTTGTGATA TATCACACAG CTTTAAATTT TGGTGAAaCT 360  
 TTCAATTAGT CAGGTATATC TGGrATTCTyA GTCTCTACAA CGCCTATTTT TTCTAGTGCT 420

|    |            |            |            |            |            |            |      |
|----|------------|------------|------------|------------|------------|------------|------|
|    | GCATTTATAG | GAATATCCAT | TATTTCAATA | AGTAAAGATG | ATTACACAAC | TATTAATGTA | 540  |
|    | TTAGGTGTTT | TTATTATTTT | ACTTGCATCT | TTTAGTGAAA | GTTTGTATTT | TACTTTCCAG | 600  |
| 5  | AAAAAATACA | TAGAAAAATA | CGGCTTCATC | GCTTTCACAC | TATaTACAAT | AATGGCAAGC | 660  |
|    | TCACCATTTA | TGCTTATTTT | TATTCCTGAA | ATCATCAACG | ATATACACGG | CGCCACTTTT | 720  |
| 10 | ACATCAATAG | TATCGGTACT | TTATTTAGCT | ATATTCCCTA | CTATAATTCC | ATACGTTTTG | 780  |
|    | CTTGCTTATA | TTGTGAAGTC | AGTTGGTGTC | TCTGATGCAA | CAATGTCTCT | TTATTTAACA | 840  |
|    | CCTATCGTTT | CTTTATTATT | ATCTTATCTG | TTATTAGACG | AGCTACCAAC | AACCCTTGCT | 900  |
| 15 | ATTATAGGCG | GAATTATCAC | TCTACTAGGC | GTTAGTTTAA | GTAACCTCTT | TCAAATACA  | 960  |
|    | TAATTATTCC | AAGTCCCGCA | CCTCAGAATC | CAAAAACATT | CGAGTGATAA | AATTTTAAAA | 1020 |
|    | ATCAAAAATA | TAAAAATGAT | CTAATTTTCG | CAAATTTACC | AATATAAATA | CTAATATTTG | 1080 |
| 20 | CAATTCACAA | AGGGGTATAG | TCTGAGTGTA | TTCTAATACG | AAAGGACTTG | GTGGATATGT | 1140 |
|    | ATTACAGTTA | TGGAAATTAT | GAAGCATTTG | CGCGCCCTAA | AAAACCTGAA | AATGTAGAAA | 1200 |
|    | ACAAATCCGC | TTACTTAATC | GGATCTGGTC | TAGCTTCACT | TGCTGCAGCT | TGTTTTTTAA | 1260 |
| 25 | TAAGGGATGG | TCAAATGGAA | GGTTCGAAGA | TTCATATTTT | AGAAGAGTTA | CCTAAAGCAG | 1320 |
|    | GTGGTAGTCT | TGATGGTGAA | AATATGCCTT | TAAAAGGCTA | TGTTGTCCGC | GGTGGTCGTG | 1380 |
| 30 | AAATGGAGAA | CCACTTTGAA | TGTTTGTTGG | ACTTATTCAG | ATCTATCCCT | TCATTAGAAA | 1440 |
|    | TCGATAACGC | GTCTGTATTA | GATGAGTTCT | ATTGGCTAAA | CAAAGAAGAC | CCTAACTATT | 1500 |
|    | CTCGCTGTCT | TGTTATTGAG | AAACAGGGTC | AACGTTTAGT | CACAGACGGA | GACTTCACCT | 1560 |
| 35 | TGACTAAAC  | GGCGATTAAA | GAAATTTTAG | ATTTATGCTT | AACGAATGAA | GAAGATTTAG | 1620 |
|    | ATGATGTCAA | AATAACAGAT | GTATTTTCCG | ATGACTTCTT | TAATTCAAAC | TTTTGGATTT | 1680 |
|    | ACTGGAAAAC | GATGTTTGCA | TTTGAACCGT | GGCATTCTGC | AATGGAAATG | CGTCGCTATC | 1740 |
| 40 | TAATGCGATT | CGTTCATCAT | ATTAGTGGTC | TCGCAGACTT | TTCAGCTTTA | AAATTCACTA | 1800 |
|    | AATATAATCA | ATATGAATCT | TTAGTATTAC | CTATGGTTGA | ATATTTAAAA | TCGCATGGGG | 1860 |
|    | TTCAATTTGA | ATACGATGTA | AAAGTCGAAG | ATATTAAAAT | AGATGTTACG | ACAAGTCAAA | 1920 |
| 45 | AAATTGCCCC | AGAAATATTA | ATTGACCGTA | ATGGTAATGC | AGAATCTATT | AAACTGACTA | 1980 |
|    | TAAACGATCT | TGTCTTTGTG | ACAAACGGTA | GTATTACAGA | AAGCTCTACT | TATGGTGATA | 2040 |
| 50 | ATGATACACC | AGCGCCACCA | ACTGACGAAT | TAGGTGGTAG | TTGGACACTA | TGGAAAAATT | 2100 |
|    | TAGCGCGACA | AAGTCCTGAA | TTTGGTAATC | CTGATAAGTT | TTGCCAAAAT | ATTCCTAAAA | 2160 |
|    | AAAGTTGGTT | TGTTTCAGCA | ACTTCTACAA | CAAACAATAA | AGAGATTATC | GATACAATAG | 2220 |

TCAATGATTC TGCATGGCAA ATGAGTTTTA CAATCAATCG TCAGCAACAG TTTAAAGACC 2340  
 AACCTGAAAA TGAAATATCT ACATGGATTT ATGCCTTATA TTCAGATGTA AACGGCGATT 2400  
 5 ATATTAATAA GCCAATTACA GAATGTAGTG GTAATGAAAT ATGCCAAGAA TGGCTGTATC 2460  
 ACTTAGGTGT ATCAACTGAC AAAATTGAAG ACTTAGCAAA ACATGCATCT AATACGATTC 2520  
 CTGTTTATAT GCCATATATC ACATCTTATT TCATGACGCG TGCTATCGGC GACAGACCTT 2580  
 10 TAGTCGTCCC GCATCAATCT CAGAACTTAG CATTATTGG TAACTTTGCA GAAACAGAGC 2640  
 GAGACACTGT ATTTACAACA GAATATTCGG TTCGTACTGC CATGGAAGCT GTTTATCAAT 2700  
 TACTAAATAT AGATCGTGGT ATTCCAGAAG TCATCAATAG TCCATTTGAT CTTGCGGTCT 2760  
 15 TAATGGATGC CATATACGAA CTGAATGACC ACCAAGATTT GCGTGAGATT ACTAAAGATT 2820  
 CGAAAATGCA AAAACTCGCA TTAGCAGGAT TCCTTAAAAA GATAAAAGGT 2870

(2) INFORMATION FOR SEQ ID NO: 529:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3105 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 529:

30 CnGTTTAGCT GCAAAAAGTA AATAACGACA CTGTATTTGG AATTTTGCAA TTAGAAACAC 60  
 TTTTGGGTGA CATTAACTCA ATTTTCAGCG AGATTGAAAG CGAATACAAA ATGTCTAGAG 120  
 AAGAAATTTT AATTTTACTA ACTTTATGGC AAAAAGGTTT TATGACGCTT AAAGAAATGG 180  
 35 ACAGATTTGT TGAAGTTAAA CCGTATAAGC GTACGAGAAC GTATAATAAT TTAGTTGAAT 240  
 TAGAATGGAT TTACAAAGAG CGTCCTGTTG ACGATGAAAG AACAGTTATT ATTCATTTCA 300  
 40 ATGAAAAGTT ACAACAAGAG AAAGTAGAGT TGTGGAATTT CATCAGTGAT GCGATTGCAA 360  
 GTAGAGCAAC AGCAATGCAA AATAGTTTAA ACGCAATTAT TGCTGTGTAA GTTTAATAGC 420  
 ATAAAAAGAG GTTTTCATTA AGTTGAAAAC CTCTTTTTGT TGTGGCATT AATTTTTCAA 480  
 45 ATGTTGACTA CTCAATCCTA AATTATAAAT AGTATAGCGC aCAAaTGCTT AAGAAATTTT 540  
 TTCTATGGCA CAAATGAATG GAGCATGATT ACGTTGGTTT AAAAATTGAT ATTGCAAAAC 600  
 TTGCGCATGC TTTTGATCCA AAGTACTCAA GTAATCAAGC AATGCATGCT TCTCAATTTG 660  
 50 TCCTTCGCTA TGACCATGAT ATATAACAAG TACAATAATA CCTTCAATTG ACATTAATGA 720  
 TAGCAATGAA TTAATAGCTT GGATTGTCGT GTCAGGCTTT GTCACGATAG ATTTATCACC 780

|    |            |            |            |            |            |            |      |
|----|------------|------------|------------|------------|------------|------------|------|
|    | TATATGATGT | TCAATATTTT | CATGTCCATC | TTTTATTAAA | GAAACATGAT | TGAAATCCTT | 900  |
|    | AACTTTATCA | CGTGTATTTT | CCAAAGCTAA | ATCTTGAATG | TCGAAACCAT | AAACATGTCC | 960  |
| 5  | TTCTGGTACT | TGTTCCGCTA | AAAATAAAGT | GTCATTGCCG | TTACCGCAAG | TTGCGTCTAC | 1020 |
|    | AACAATACTT | TCTGGTGTTA | TATGTTGTTT | AATAAGTGTT | TTTGAAAAAG | GGAGTATACG | 1080 |
|    | TTCTAATTTT | ATTGCTTCAC | CTTAGACTTG | TAACGCAAGC | CTTGATAAGA | ATTTCTACGT | 1140 |
| 10 | GCTAATTCAG | CATCGATGCC | ATTTAATACT | TCCCATTAT  | TAACACTCCA | CATTGGACCT | 1200 |
|    | ACCATGATAT | CTATTGGACC | ATCACCGGTA | ATTCGGTGAA | CGATCATTTT | AGGGGGAATC | 1260 |
| 15 | ACTTCTAATT | GGTCCACAAC | TAGGTTTGTG | TACTCTTCTT | GAGTCATAAA | AGTTAATAAA | 1320 |
|    | CCTTTATCGT | ATTGTTTTAC | CATCGGTGTA | CCTTTTAACA | AATGAAGTAA | ATGAATTTTA | 1380 |
|    | ATACCTTGTA | CATCCATTTG | TGCACCTCTT | TGGCAGTAGC | CATCATCATG | TCATAGTCTT | 1440 |
| 20 | CGCCAGGTAA | GCCATTAATG | ATGTGTGTAC | ATACATTGAT | ATTATGCTTA | CGTAATTTTG | 1500 |
|    | CCACACCATC | ATAATAAGTT | TTCATATCAT | GGGCACGATT | GATTAAATCA | GATGTTGACT | 1560 |
|    | GATGGATTGT | TTGTAGTCCT | AATTCAACCC | ATAAGTATGT | TCGTTGATTC | AAATCTGCTA | 1620 |
| 25 | AATATTCGAC | AACATCGTCT | GGTAGACAGT | CAGGACGCGT | ACCAATAGAT | AATCCCACAA | 1680 |
|    | CACCCGGTTC | TTTAAGTACA | GGTTCGAATT | TTTCTTTTAA | TACTTCAACC | GGTGCATGTG | 1740 |
|    | TATTTGTAAA | TGCCTGAAAA | TAAGCAATAT | ATTTTCCTTC | GTGCCATTTC | TCATGCATCT | 1800 |
| 30 | TTTCTTTAAT | TTCTTTAAAT | TGTACTGCGA | TTGAATCTGC | ACGATTACCT | GCAAAGTCTC | 1860 |
|    | CGCTACCTGC | AGCAGAACAA | AATGTACATC | CACCATGTGC | TACAGTGCCA | TCGCGGTTAG | 1920 |
| 35 | GACAGTCAAA | CCCGCCATCC | AATGCAACTT | TAAATATTTT | TTGTCCAAAT | TTATTTTTTA | 1980 |
|    | AATGGTAATT | CCATGTGTGA | TAACGTTTGT | TTTCAAAAGC | GTATTGGAAA | TGATTGCCCA | 2040 |
|    | TATGTCATTT | TCCTTTCTAT | AAAAAAAGAG | TTCTAAGTAC | AGATTTTAAC | ATATTTTAAT | 2100 |
| 40 | GTTATAGTGT | TTATTATAGT | TTGACAAAAA | AGAGAGAGGA | ACTATGAAAT | ATGAATATAC | 2160 |
|    | CTAAATCAGT | CTGGTGGCTA | GTAATTGGCA | TGGCGTTAAA | TATTACTGGT | TCCAGTTTTT | 2220 |
|    | TGTGGCCTTT | AAATACAATT | TATATGAAAC | AAGAACTTGG | AAAAAGTTTA | ACTGTTGCTG | 2280 |
| 45 | GTTTAGTGCT | AATGATAAAT | TCATTTGGCA | TGGTTATTGG | AACTTTATTA | GGTGGTTCAC | 2340 |
|    | TATTTGATAA | ATTAGGTGGA | TACAAGACGA | TTTTAATTGG | AACTTTCACT | TGTCTTTGTA | 2400 |
|    | GTACAACGCT | ACTTAATTTT | TTTCACGGGT | GGCCTTGGTA | TGCTGTATGG | CTTGTAATGT | 2460 |
| 50 | TAGGGTTTGG | TGGCGGAATG | ATTATTCCTG | CGATATACGC | TATGGCTGGA | GCAGTGTGGC | 2520 |
|    | CAAATGGCGG | AAGACAAACG | TTTAATGCGA | TATACTTAGC | GCAAAATATT | GGTGTGGCTG | 2580 |

|    |  |      |
|----|--|------|
|    | ATCTTATTAT GTATGTTGTG TTTGCGCTTG TCGCGGTAAC GCAATTTAAT ATTGAAATTA  | 2700 |
|    | ATGCGAAAGT TAAATATCCA ACTCATTTAG ATATTACTGG TAAAAAGAAT AAAGCAAGAT  | 2760 |
| 5  | TTATTTTCATT AGTACTAATT TGTGCAATGT TTGCAATTTG TTGGGTTGCA TATATTCAAT | 2820 |
|    | GGGAGTCTAC AATCGCTTCA TTTACACAAT CTATTAATAT TTCAATGGCA CAATATAGTG  | 2880 |
|    | TTTTATGGAC AATTAACGGA ATAATGATTT TAGTAGCACA ACCATTAATT AAACCGATTG  | 2940 |
| 10 | TCTATCTGTT AAAAGGAAAC TTAAAGAAGC AAATGTTTGT CGGCATCATC ATTTTTATGT  | 3000 |
|    | TGTCGTTCTT TGTCACGAGT TTTGCCGAAA ACTTTACAAT ATTTGyTGTC GGTATGATTA  | 3060 |
| 15 | TTTTAACTTT TGGAGaATGT TTGTATGGCC AGCAGTTCCA ACTAT                  | 3105 |

(2) INFORMATION FOR SEQ ID NO: 530:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5532 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 530:

|    |   |     |
|----|---|-----|
|    | TAATGATTAA ACCAGATGCA GTACAAAGAA ATCTAATTGG TGAAGTAATT TCAAGAATTG   | 60  |
|    | AAAGAAAAGG ACTAAACTT GTCGGTGGTA AATTAATGCA AGTACCAATG GAACTTGCTG    | 120 |
| 30 | AAACACATTA TGGTGAACAC CAAGGTAAAC CATTTTATAA TGATTTAATT TCATTTATTA   | 180 |
|    | CATCAGCACC AGTGTTTCGCA ATGGTAGTTG AAGGTGAAGA TGCAGTTAAT GTATCTAGAC  | 240 |
| 35 | ATATTATTGG CAGCACCAAT CCTTCAGAAG CTCACCAGG ATCAATTAGA GGTGATTTAG    | 300 |
|    | GTTTAACTGT TGGTAGAAAT ATCATTCACG GTTCAGATTC ATTAGAGTCT GCTGAACGTG   | 360 |
|    | AAATTAATCT ATGGTTTAAT GAAAATGAAA TTACTAGCTA TGCTTCACCA CGTGATGCAT   | 420 |
| 40 | GGTTATATGA ATAAAATATA AACTGTAAAC CTTTACGATT TATTTATAAA GG TAGAAAGG  | 480 |
|    | GTTTTGTTAT GTGGTTAGTC ATTATGaTTA TACATAACAA GGCCCGTTTT TTATGTTGTA   | 540 |
|    | GTAAATTACT TGAAAAATTT TATAGTTTTT kGGTAACACG TAtTaAAAAaG AGAGGAATAT  | 600 |
| 45 | TCTTTATCAA ATGAAACTAA ACAGAGAGAA GGGGTTGTTA AAATGAAGaAA TATTATTTTCG | 660 |
|    | ATTATTTkGG GGATTTTAAT GTTCTTAAAA TTAATGGAAT TACTATATGG TGCTATATTT   | 720 |
|    | TTAGATAAAC CACTTAATCC TATAACAAAA ATTATTTTAA TACTGACTCT CATTTATATT   | 780 |
| 50 | TTTTATGTAT TAGTAAAAGA ATTGATTATA TTTTGTaAGT CAAAGTATAA CAAAAGCGCT   | 840 |
|    | TAACATATGT ATATTTTAAT ATCATAATTT TTTTAAACGG ACTGATTAAC TTTATTAATA   | 900 |

|    |            |             |             |            |             |            |      |
|----|------------|-------------|-------------|------------|-------------|------------|------|
|    | GATACGATTA | TATTAAAAACG | GCTAATCATT  | TTTAATTAAT | GATTATATGA  | TGCAACTGTT | 1020 |
|    | TAGAAATTCA | TGATACTTTT  | CTACAGACGA  | ATATATTATA | ATTAATTTTA  | GTTCGTTTAA | 1080 |
| 5  | TATTAAGATA | ATTCTGACAT  | TTAAAAATGAG | ATGTCATCCA | TTTTCTTAAT  | TGAGCTTGAA | 1140 |
|    | AACAAACATT | TATGAATGCA  | CAATGAATAT  | GATAAGATTA | ACAACATATT  | ATAATGTTAT | 1200 |
|    | CGTGGAAGTA | TGAAAGGAGC  | GAGTGTGTAT  | GAGATACCTA | ACATCAGGAG  | AATCACATGG | 1260 |
| 10 | ACCTCAATTA | ACAGTTATTG  | TTGAAGGTGT  | ACCTGCAAAT | ATAGAAATTA  | AGGTTGAGGA | 1320 |
|    | TATTAATAAA | GAAATGTTTA  | AGCGTCAAGG  | CGGTTACGGA | CGTGGACGTC  | GTATGCAAAT | 1380 |
|    | TGAGAAAGAT | ACAGTAGAAA  | TAGTATCAGG  | CGTTAGAAAT | GGTTATACAT  | TAGGTAGTCC | 1440 |
| 15 | AATTACTATG | GTGTGAACCA  | ATGATGACTT  | TACGCATTGG | AGAAAAATTA  | TGGGAGCAGC | 1500 |
|    | TCCAATAAGT | GAAGAAGAAC  | GTGAAAATAT  | GAAACGTACT | ATTACAAAAC  | CAAGACCTGG | 1560 |
| 20 | TCATGCAGAT | TTGGTTGGAG  | GTATGAAATA  | TAATCATCGT | GATTTACGAA  | ATGTGCTAGA | 1620 |
|    | GCGATCATCT | GCTAGAGAAA  | CAGCAGCTCG  | AGTTGCAGTC | GGTGCCTTAT  | GTAAAGTGTT | 1680 |
|    | ATTACAACAG | TTAGATATCG  | ATATATACAG  | TCGTGTTGTT | GAAATAGGTG  | GAATTAAAGA | 1740 |
| 25 | TAAAGATTTT | TATGATTCAG  | AAACATTTAA  | AGCAAATCTT | GATCGTAATG  | ATGTTCTGTT | 1800 |
|    | AATTGATGAC | AGTATCGCAC  | AAGCAATGCG  | AGATAAAATT | GACGAaGCTA  | AAAATGAAGG | 1860 |
|    | AGATTCAATT | GGCGGTGTCG  | TTCAAGTTGT  | AGTTGAAAAT | ATGCCTGTTG  | GTGTAGGTAG | 1920 |
| 30 | TTATGTGCAT | TATGATCGTA  | AGTTAGATGG  | TAAGATTGCA | CAAGGTGTTG  | TCAGCATAAA | 1980 |
|    | TGCTTTTAAA | GGTGTAAGCT  | TTGGTGAAGG  | ATTTAAAGCA | GCTGAAAAGC  | CAGGTAGTGA | 2040 |
| 35 | GATTCAAGAT | GAAATTCTAT  | ATAATAGTGA  | AATTGGTTAT | TATCGTGGAT  | CTAATCACTT | 2100 |
|    | AGGTGGTTTA | GAAGGCGGTA  | TGTCAAATGG  | AATGCCAATT | ATCGTTAATG  | GTGTAATGAA | 2160 |
|    | ACCAATTCCA | ACGTTATATA  | AACCATTAAA  | TTCAGTAGAC | ATTAATACTA  | AAGAAGACTT | 2220 |
| 40 | TAAAGCAACA | ATTGAACGTT  | CTGATAGTTG  | TGCTGTTCTT | GCAGCAAGTA  | TCGTCTGCCA | 2280 |
|    | ACATGTCGTA | GCATTTGAAA  | TAGCAAAAAGC | ATTATTGGAA | GAATTCCAAT  | CAAATCATAT | 2340 |
|    | TGAGCAACTT | AAACAACAAA  | TTATTGAGCG  | CAGACAATTA | AATATTGAGT  | TTTAACAACA | 2400 |
| 45 | AGAACAATTG | AGGTGTAATC  | ATGAAATTAC  | AAACAACATA | CCCTTCAAAT  | AATTATCCAA | 2460 |
|    | TATATGTTGA | ACACGGTGCA  | ATTGACCATA  | TTAGCACGTA | TATTGATCAG  | TTTGATCAAA | 2520 |
|    | GTTTTATATT | AATTGACGAG  | CATGTAAATC  | AATATTTTGC | TGATAAATTT  | GATGATATTT | 2580 |
| 50 | TATCATATGA | AAATGTACAT  | AAAGTTATTA  | TTCCAGCTGG | TGAAAAGACG  | AAAACATTTG | 2640 |
|    | AGCAATATCA | AGAAACATTA  | GAGTATATTT  | TATCCCATCA | TGTAACCTCGT | AATACAGCAA | 2700 |

|    |             |            |            |            |            |             |      |
|----|-------------|------------|------------|------------|------------|-------------|------|
|    | ACGAGGCGTG  | CACTTTATAC | AAGTGCCAAC | GACTATACTA | GCGCATGATT | CTAGTGTGG   | 2820 |
|    | CGGTAAAGTG  | GGTATTAAC  | CAAAGCAAGG | TAAAAACCTT | ATCGGTGCAT | TTTATCGTCC  | 2880 |
| 5  | AACTGCTGTG  | ATTTATGATT | TAGTCTTTTT | AAAGACGTTA | CCATTTGAGC | AAATATTAAG  | 2940 |
|    | TGGCTATGCA  | GAAGTTTATA | AGCATGCGTT | ATTGAATGGT | GAATCAGCGA | CGCAAGATAT  | 3000 |
|    | CGAACAGCAC  | TTTAAACATA | GAGAGATATT | ACAGTCATTA | AATGGTATGG | ATAAATATAT  | 3060 |
| 10 | TGCTAAAGGT  | ATTGAAACGA | AGCTGGATAT | TGTTATTGCA | GATGAAAAAG | AACAAGGTGT  | 3120 |
|    | ACGTAAATTT  | TTAAATTTAG | GTCATACATT | TGGTCATGCT | GTTGAATACT | ATCATAAAA   | 3180 |
|    | ACCTCATGGT  | CATGCAGTGA | TGGTTGGCAT | TATCTATCAA | TTTATAGTTG | CGAATGCTTT  | 3240 |
| 15 | GTTTGATTCT  | AAGCATGATA | TTAATCATT  | TATTCAATAT | TTAATACAAC | TCGGCTATCC  | 3300 |
|    | TTTAGACATG  | ATAACTGACT | TGGATTTTGA | AACGTTATAC | CAATATATGC | TAAGTGATAA  | 3360 |
| 20 | AAAGAATGAT  | AAGCAAGGTG | TACAAATGGT | CTTGATTAGA | CAATTTGGAG | ATATCGTTGT  | 3420 |
|    | ACAACATGTT  | GATCAACTAA | CATTACAACA | TGCATGTGAA | CAATTAACAA | CATATTTTAA  | 3480 |
|    | GTAGGTGAAT  | GAAATGGTAA | ATGAACAAAT | CATTGATATT | TCAGGTCCGT | TAAAGGGCGA  | 3540 |
| 25 | AATAGAAGTG  | CCGGGCGATA | AGTCAATGAC | ACACCGTGCA | ATCATGTTGG | CGTCGCTAGC  | 3600 |
|    | TGAAGGTGTA  | TCTACTATAT | ATAAGCCACT | ACTTGGCGAA | GATTGTCGTC | GTACGATGGA  | 3660 |
|    | CATTTTCCGA  | CTGTTAGGTG | TAGAAATCAA | AGAAGATGAT | GAAAAATTAG | TTGTGACTTC  | 3720 |
| 30 | CCCAGGATAT  | CAATCTTTTA | ACACGCCACA | TCAAGTATTG | TATACAGGTA | ATTCTGGTAC  | 3780 |
|    | GACAACACGA  | TTATTGGCAG | GTTTGTTAAG | TGGTTTAGGT | ATTGAAAGTG | TTTTGTCTGG  | 3840 |
|    | CGATGTTTCA  | ATTGGTAAAA | GGCCAATGGA | TCGTGTCTTG | AGACCATTGA | AACTTATGGA  | 3900 |
| 35 | TGCGAATATT  | GAAGGTATTG | AAGATAATTA | TACACCATTA | ATTATTAAGC | CATCTGTCAT  | 3960 |
|    | AAAAGGTATA  | AATTATCAAA | TGGAAGTTGC | AAGTGCACAA | GTAAAAAGTG | CCATTTTATT  | 4020 |
| 40 | TGCAAGTTTG  | TTTTCTAAGG | AACCGACCAT | CATTAAAGAA | TTAGATGTAA | GTCGAAATCA  | 4080 |
|    | TACTGAGACG  | ATGTTCAAAC | ATTTTAATAT | TCCAATTGAA | GCAGAAGGGT | TATCAATTAA  | 4140 |
|    | TACAACCCCT  | GAAGCAATTC | GATACATTAA | ACCTGCAGAT | TTTCATGTTT | CTGGCGATAT  | 4200 |
| 45 | TTTCATCTGCA | GCGTTCTTTA | TTGTTGCAGC | ACTTATCACA | CCAGGAAGTG | ATGTAACAAT  | 4260 |
|    | TCATAATGTT  | GGAATCAATC | CAACACGTTT | AGGTATTATT | GATATTGTTG | AAAAAATGGG  | 4320 |
|    | CGGTAATATC  | CAACTTTTCA | ATCAAACAAC | TGGTGCTGAA | CCTACTGCTT | CTATTTCGTAT | 4380 |
| 50 | TCAATACACA  | CCAATGCTTC | AACCAATAAC | AATCGAAGGA | GAATTAGTTC | CAAAAGCAAT  | 4440 |
|    | TGATGAACTG  | CCTGTAATAG | CATTACTTTG | TACACAAGCA | GTTGGCACGA | GTACAATTAA  | 4500 |

|    |   |      |
|----|---|------|
|    | AAACTTGTTA GGGTTTGAAT TACAACCAAC TAATGATGGA TTGATTATTC ATCCGTCAGA | 4620 |
|    | ATTTAAAACA AATGCAACAG TTGATAGTTT AACTGATCAT CGAATAGGAA TGATGCTTGC | 4680 |
| 5  | AGTTGCTTCT CTACTTTCAA GCGAGCCTGT CAAAATCAAA CAATTTGATG CTGTAAATGT | 4740 |
|    | ATCATTTCCA GGATTTTAC CAAAATAAA GCTTTTAGAA AATGAGGGAT AATATAAAAT   | 4800 |
|    | GGAAGATATC TATAAATTAA TAGACGATAT CAATCTACAA AAACTAGAAA ATTTAGACTC | 4860 |
| 10 | TCGTGTTAAT GAAGCAATAA CTACTGACAA CGATGACGCA TTATTTATTC TAGGAGAGAC | 4920 |
|    | ACTTTACAAT TTTGGATTAA TGCCaCAAGG TTTGGAAGTA TTCCGCGTGT TATATCACAA | 4980 |
| 15 | ATATCCAGAC GAAAGTGAAT TGCTGATTTA TTTTATTGAA GGTTTAATGT CTGAAAATCA | 5040 |
|    | AACTGACGAA GCGTTAGAAT ATTTAAGTTA TGTTGAACCA TCACCTGAAA AGTTGATGTT | 5100 |
|    | AGAAGCAGAT TTATATCAAC AAATTAATAT GATGGAAGTT GCTATTGATA AATTACAAGA | 5160 |
| 20 | AGCACTTGAA CTAGAGCCAA ATGATCCAAT AATCCATTTT GCATTGGCTG AAATGTTATA | 5220 |
|    | TTATGATGGT CAATATTTAC GTGCTACCTC TGAATACGAA ACCGTTTTAG AAATGGTGA  | 5280 |
|    | ATATCAAGTT AATGGTGTA ACTTATTCTC TCGTATGGCA GATTGTAGTT TACAAAGTGG  | 5340 |
| 25 | kAACTATAGT GATkCcGATt CgCTTATACG ATGrAATTAA TGAAGATGAA ATGACTTCAG | 5400 |
|    | AAGATTATCT CAAAAGAGCC ATTTCTnACG ATAAAAATGA CATCACTCAA GAAGCAATTA | 5460 |
|    | AAATAATGAC TACATTACTT TCTAAAGATC CTGATTATAT TCAAgGCTAC TTGTATTTAC | 5520 |
| 30 | aATCaTTATA TG   | 5532 |

## (2) INFORMATION FOR SEQ ID NO: 531:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 942 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 531:

|    |  |     |
|----|--|-----|
|    | AATTGGGTTA TACTATAGGT AAATTTAAGG AGGTAAGAAA ATGGATAAAA AAGAATTAGC  | 60  |
| 45 | GAAATTTATA GGCAATAAAA TCAGATACTA TAGAACCaaA TTGaACTTAA CTCAAGATCa  | 120 |
|    | ACTTGAGAGAA AAACtMaaCa CTAAAAArGC TACTATTTCA AATTATGAGA CAGGGTACAG | 180 |
|    | AACTCCTAAA CAAGATGATT TGTTTGAAAT TGCTCATATT TTAAATATCA GTATCGATGA  | 240 |
| 50 | TTTGTTTCCT ACAAGAAATA ATAAAAAAA CGACATCACT TCCATATACA ACAAACTCAC   | 300 |
|    | ACCTCCCCGC CAAGAAAACG TACTTAACTA CGCAAATGAG CAATTAGATG AACAGAATAA  | 360 |

AACTGGTGCT GGCATAGGAG AAGAATTATA TGATGACATA TTGCATGAAG AAGTATTTTT 480  
 TAAAGAAGAC GAAACGCCAT CAAATGCTGA TTTTGTATT TTAGTTAATG GTGATTCAAT 540  
 5 GGAACCTATG TTAAAAACAAG GAACATACGC TTTTATTAAG AAAGAAGATT CTATTAAAGA 600  
 TGGTACAATT GCACTCGTTG TATTAGATGG AGTAAGTCTT ATCAAGCGTG TAGATATATG 660  
 CGAAGACTAT ATTAATTTGG TATCTCTAAA TCCGAAGTAT GATGATATCA AAGTCGCTTC 720  
 10 GTTTAGTAAT ATTAAAGTAA TGGGCAAAGT TGTATTGTGA TTAATAGCGC CTATATGGCA 780  
 CTTTAATATA AAAGACGTCT ATTTACAGCAG TGTTTAAAAG GAGTTTATAA TGAAAAATAAC 840  
 15 TAATTGCAAA ATAAAAAAG AAACATAGT ATATGAAGTT TTAAC TAGTGTGTAATCAACC 900  
 ATTCACCTAT GAGTTACCTA AAGATTTATC GTCACATAAT GC 942

(2) INFORMATION FOR SEQ ID NO: 532:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 417 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 532:

TGGnAAATGC AAACCAAAT ATGaTCCTCG TGcAAGTTGA AGCGGGACGT TATGAAGAAT 60  
 30 GGGTAAAGAA TGGTTATTTT AAACCGTCAG AAGATAAATC AAAAGAAACA TATACAATTG 120  
 TTATCCCGCC ACCAAATGTA ACTGGTAAAT TACATTTAGG ACATGCATGG GATACGACTT 180  
 35 TACAAGATAT CATTACACGT ATGAAACGTA TGCAAGGATA CGATACGTTA TACTTACCAG 240  
 GTATGGATCA TGCTGCTATT GCGACACAGG CAAAGGTAGA AGCTAAATTA AATGAACAAG 300  
 GAATACTAG ATATGATCTT GGTCGTGAAA AGTTTTTAGA ACAGGCATGG GATTGGAAAAG 360  
 40 AAGAGTATGC GTCATTTATT CGTGCGCAAT GGGCTAAATT AGGTCTAGGT TTAGATT 417

(2) INFORMATION FOR SEQ ID NO: 533:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 733 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 533:

GATCGTGAAC CCGCATTTGT TTCCACTAAA ACAGTATGCC CACTTTCTAC TAAAGCGTGC 60

ATTTTCATAC CATCCACCTC CATAATCATC TTAACGCGAA CATTTTGAAA GCGCAATCAA 180  
 AAATCCACAA AATTGTAAAG GTTATTACAC TGACTTTTCC GAAAATTGTG GTAAAATATA 240  
 5 ATTAAGAAAG AACAAGGAGG CACTTACTAT GATTACTTAC AAAAATATTT TAATCGCAGT 300  
 TGACGGTTCA CATGAAGCGG AATGGGCATT TAACAGAGCA GTTGGTGTTG CTAAACGTAA 360  
 CGATGCGAAG TTAACAATTG TGAATGTAAT TGATTCAAGA ACGTATTCTT CTTATGAAGT 420  
 10 TTATGATGCT CAATTTACTG AAAAATCTAA GCATTTTGCA GAAGAATTAT TAAATGGTTA 480  
 TAAAGAAGTA GCTACTAACG CTGGTGTTAA AGATGTAGAA ACGCGTCTAG AGTTTGGyTC 540  
 15 TCyTAAATCT ATCATTCCTA AAAAGCTTGC ACATGAAATT AATGCAGACT TGATTATGAG 600  
 TGGTACATCA GGCTTAAATG CCGTGGAAGg ATTTATTGTT GGTTCGTAT CAGAATCTAT 660  
 CGTTCGTCAT GCGCCATGTG ACGTGTTAGT TGTTCTGACT GAAGAGTTAC CAGCAGACTT 720  
 20 CCAACCACAA GTT 733

## (2) INFORMATION FOR SEQ ID NO: 534:

## (i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 6060 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 534:

TGATGATCCT GAAGCGCTAT TGGATAATTA CAACACTGAA GATGTTGATG CACACAATTA 60  
 35 CAATAATATA AATCATGTTA TTTTGCCTG CGATGCGGGT ATGGGTTCTA GTGCAATGGG 120  
 TGCArGCATG TTACGTAATA AATTAAAAA GGCGGGCATT AATGATATTA CAGTTACAAA 180  
 TACTGCGATT AATCAATTGC CAAAAGATGC TCAATTAGTT ATCACTCAGA AAAAATAAC 240  
 40 TGATCGTGCT ATTAAACAAA CACCAAATGC CATCCATATT TCAGTGGATA ATTCCTTAA 300  
 TTCACCAAGA TATGAAGAAC TTTTAAATA TCTAAAAAAA GATGATCAAG CATAATAATT 360  
 AAATAAATTA AAAAATGGAG GATACCGCCA TGTTATTGAG TACACGTGAA AAAGAAATGA 420  
 45 TAGCCcAtT GATTAAGTAC CACGGtCAAt ATATCACTAT ACACGACATT GCTCAGCAAC 480  
 TTGCGGTGTC CTCTCGTACT ATTCACCGTG AATTAAAAGG TGTTGAAGCA TATTTAACTT 540  
 CATTTTCATT AACTTTAGAA CGCGCAAACA AAAAAGGGcT ACGCATTGCT GGCACAGATT 600  
 50 CTGATTTAAA CGATTTGAAG CAATCGATTG CACAACATCA AACCATTGAC TTATCTGTTG 660  
 AAGAGCAGAA AGTAATTATT ATATACGCTT TGATACAAGC CAAGGAGCCA GTTAAACAAT 720

|    |            |             |            |            |            |            |      |
|----|------------|-------------|------------|------------|------------|------------|------|
|    | TAGAGCTTGA | TTTAAATAAG  | TACCAACTAT | CTTTATCTCG | AAAGCGTGGC | GAAGGCATTT | 840  |
|    | ACTTGGTAGG | TACTGAATCA  | AAGAAACGTG | AATTTTAAAG | TCAATTAATG | GTGAATAACT | 900  |
| 5  | TAAATAGTAC | TAGCGTTTAT  | TCAGTAATTG | AAAATCATTT | TGTCTTTCAT | TCATTAAATC | 960  |
|    | AAATCCACAA | AGACTTTGTT  | GACTTAGAGC | GCATTTTTAA | TGTTGAAAGA | CtATTaATGG | 1020 |
|    | ACTACCTAAG | TGCCTTACCC  | TACCAACTTA | CCGAATCAAG | TTATTTAACT | TTAACTGTCC | 1080 |
| 10 | ATATCGTGCT | CTCCATTTCA  | CGTATAAAAA | ATGGAGAGtA | TGTCGCATTA | AACGATGATA | 1140 |
|    | TTTATGATTC | TGTACAAAAC  | ACATTTGAAC | ACAAAGTaGc | AAGCGAACTT | GCTGATAAAC | 1200 |
|    | TTGGTCAAAT | ATATGACGTC  | ACGTTTAATC | AGGCAGAAAT | TGCTTTCATT | ACTATCCATT | 1260 |
| 15 | TACGTGGAGC | TAAACGAAAA  | AATCTTAATG | ATACATCATT | AAATAATCGT | TGTGAAGAAA | 1320 |
|    | ACAAAATTAA | AGCGTTTGT   | AACAAAGTAG | AAATGATTTT | CGGTATGACA | TTTGCAGATT | 1380 |
| 20 | TGGATACTTT | AGTAGATGGA  | CTGACGCTAC | ACCTTAATCC | TGCAATCAAT | CGTTTGCAAG | 1440 |
|    | CTAATATCGA | GACCTATAAT  | CCGTTAACAG | ACATGATTAA | GTTCAAATAT | CCAAGACTAT | 1500 |
|    | TTGAAAATGT | AAGATTAGCT  | TTAAATGATT | GTTGGCCTGA | TTTGATTTTT | CCAGAGAGTG | 1560 |
| 25 | AAATTGCTTT | TATAGTtTTA  | CACTTTGGTG | GCTCGATTAA | AAACCAAGGT | AATCGATTTT | 1620 |
|    | TAAACATATT | AGTCGTTTGC  | AGCAGTGGTA | TGGGAACTAG | TCGTCTATTA | TCAACTCGTC | 1680 |
|    | TAGAGCAAGT | TTTTAGTGAG  | ATTGAGCGTA | TTACACAAGC | ATCAGTCAGC | GATTTGAAGT | 1740 |
| 30 | CACTAGATTT | AAGTCAATAT  | GATGGCATT  | TTTCTACTGT | GAATTTAGAC | ATCGACTCCC | 1800 |
|    | CCTATTTAAC | GGTAAACCCA  | TTATTACCAG | ATAGTGATAT | CAGTTATGTC | GCACAGTTTT | 1860 |
|    | TAAATACAAA | GTCTACGTT   | CAAGAGACGC | ATGATAAATC | ATCAAACATG | ATTGATAAGG | 1920 |
| 35 | ATGATGTTCA | TGTTGAAACG  | AAAGATGTTG | ATGGCAACAC | ATCTTTTGAA | AATGAACAAA | 1980 |
|    | CTTCATACTT | AACTTCAGTT  | TTCGAAAAAC | ATTTAAGTGA | CGAAAAATCA | GAACAATTAT | 2040 |
| 40 | TGCATCATAT | GCGTTCGGGT  | TTAACTTTGC | TTGATTCAGT | GAAAATAGTT | AGTACCGAAG | 2100 |
|    | TTAAACAGTG | GCAAACATAT  | ATCGCAGATT | ATCTATATCA | ATGCGATGTA | ATAAACGATC | 2160 |
|    | CAACGTCATT | CGCTGAACTA  | CTAGAGCAAC | GATTGATTGA | CAATCCAGGA | TGGATATTAA | 2220 |
| 45 | GTCCATATCC | TGTTGCAATA  | CCACACCTAA | GAGACAATAT | GATTAAACAC | CCTATGATTC | 2280 |
|    | TAATCACAGT | TTTAGAAGAA  | CCGTTAACAT | TGCCTAGTAT | TCAAAATGAC | AATCAAACAA | 2340 |
|    | TTAAATATAT | GATTTCCATG  | TTTATTTCTG | ACAATGATTT | TATGGCATCA | CTGGTAAGTG | 2400 |
| 50 | ACTTGTCCGA | ATTTTAAAGT  | TTGAAATTAG | AATCTATTGA | TACTTTTATG | GAAAATCCAC | 2460 |
|    | AGGAACTTGA | AACATTATTtA | AGAAACAAAT | TTTTAGAACG | AATTAAAAAA | CAATTTATTT | 2520 |

|    |            |            |             |            |            |            |      |
|----|------------|------------|-------------|------------|------------|------------|------|
|    | TAACAGCCAA | AATGAAGCAA | TTGAAAAAGC  | AGGTAAAGCC | TTAGTTGATA | GTGGTGCTGT | 2640 |
|    | AACAGATGCT | TATATTCAAG | CAATGAAAGA  | TCGTGAGCAA | GTCGTATCAA | CATTTATGGG | 2700 |
| 5  | AAATGGCTTA | GCAATTCCTC | ATGGCACAGA  | TGAAGCTAAA | ACAAATGTGA | TTCACTCAGG | 2760 |
|    | TTTAACATTA | TTACAAATCC | CTGAAGGCGT  | TGACTGGGAT | GGCGAAGTAG | TTAAAGTTGT | 2820 |
|    | CGTGGGAATT | GCTGGTAAAG | ATGGCGAACA  | TTTAGACTTG | TTATCTAAAA | TTGCAATTAC | 2880 |
| 10 | ATTTAGCGAA | GAAGAAAATG | TGGATCGTAT  | CGTTCAAGCA | AAATCTGCAG | AAGAAATTAA | 2940 |
|    | ACAAGTATTC | GAGGAGGCAG | ATGCATAATG  | AAAGCAGTTC | ACTTTGGTGC | TGGTAACATA | 3000 |
| 15 | GGTCGTGGTT | TCATTGGTTA | TATTCTgCAG  | ACAACAATGT | TAAAGTAACA | TTTGCAAGCG | 3060 |
|    | TCAATGAAGA | AATCATTAAT | GCTTTAGCTC  | ATGATCATCA | ATACGATGTT | ATTTTAGCTG | 3120 |
|    | ATGAGTCTAA | AACAACGACG | CGCGTGAAtA  | ATGtTGATGC | AATTAATTCA | ATGCAACCTT | 3180 |
| 20 | CTGAAGCGTT | GAAACAAGCA | ATTCTAGAAG  | CTGATATTAT | TACAACAGCT | GTTGGTGTTA | 3240 |
|    | ACATACTACC | TATTATTGCT | AAATCTTTTG  | CGCCTTTCTT | AAAAGAAAAA | ACAAACCATG | 3300 |
|    | TTAATATTGT | TGCTTGTGAG | AATGCTATTA  | TGGCAACTGA | TACATTGAAA | AAAGCAGTAC | 3360 |
| 25 | TTGATATTAC | TGGCCCTCTT | GGTAACnaTA  | TTCATTTTGC | TAAGTCAGCA | GTTGATAGAA | 3420 |
|    | TTGTACCATT | ACAAAAGAAT | GAAAATATAT  | TAGACGTTAT | GGTTGAGCCA | TTTTACGAAT | 3480 |
|    | GGGTTGTTGA | AAAAGATGCA | TGGTATGGTC  | CAGAACTAAA | CCATATTAAA | TATGTTGATG | 3540 |
| 30 | ATTTAACACC | ATATATTGAG | CGTAAATTAT  | TAAGTGTGAA | TACAGGACAT | GCATATTTAG | 3600 |
|    | CGTATgCTGG | tAAATTTGCA | GGTAAAGCTA  | CAGTTTTAGA | TGCAGTTGAA | GATAGTTCAA | 3660 |
| 35 | TTGAAGCTGG | CTTACGCCGT | GTTTTAGCTG  | AACTAGTCA  | ATATATTACT | AATGAATTTG | 3720 |
|    | ATTTTACTGA | AGCGGAACAA | GCTGGTTATG  | TTGAAAAAAT | AATAGATCGT | TTCAACAATT | 3780 |
|    | CTTATTTATC | TGATGAAGTA | ACACGTGTCTG | GACGAGGTAC | ATTACGTAAA | ATTGGCCCTA | 3840 |
| 40 | AAGATAGAAT | TATAAAACCA | TTAACATATC  | TTTATAATAA | AGATTTAGAA | CGCACTGGTT | 3900 |
|    | TATTAAATAC | AGCTGCATTG | TTATTGAAGT  | ATGATGATAC | AGCAGACCAA | GAAACTGTTG | 3960 |
|    | AGAAAAATAA | TTACATTAAA | GAACACGGTT  | TAAAAGCGTT | TTTAAGTGAA | TATGCTAAAG | 4020 |
| 45 | TTGACGATGG | CTTAGCCGAT | GAAATAATTG  | AAGCGTACAA | TTCACTTTCA | TAATTTATTG | 4080 |
|    | AGCTTTGTTT | GAAACAAGAA | GTTTCCAACG  | TTATTCGTTA | ACAATCAGTA | ATAATGTAGT | 4140 |
|    | AGTTCCCTTG | AATTAACAAT | ATTAAATTTT  | TGAACATAAA | AAATACTCCC | TTCAACATAG | 4200 |
| 50 | ACACTTAACT | TGTGTTATGT | ATGAAAGGAG  | TATTTTTGCG | TTAATAATTT | GTTTTATTTT | 4260 |
|    | CGAGCCACAG | CCACCTATT  | AATGGCTATT  | GGTCATTACT | AAAACAAATT | CATATTAACT | 4320 |

|    |            |            |             |            |            |            |      |
|----|------------|------------|-------------|------------|------------|------------|------|
|    | TTGAATAAAT | TTTATTCTTC | AGTTTGTTGG  | TCTTTCTTAG | TGAATCTTCT | AATTAAGAAT | 4440 |
|    | GCCATACCTG | CACCTAGAGC | TAATTCAGCA  | TATGGTAAAT | CGTCATTATG | TGACATACCA | 4500 |
| 5  | GTATCTGGTA | AAGTTTTAGC | TTGTTGTTTA  | GCTTTATTAA | CTTTTCCTTG | TTGAGCTGAT | 4560 |
|    | TTTGTCTTAG | CTTGGTGGTC | GTCAGTGTTA  | GTTACATTAA | GCATATCTTG | ATTAGCACTA | 4620 |
|    | TTGCTTCCAT | TTGAAACTGT | AGCTGGAGAT  | GCATTGGCAC | CGTCGTTTTG | CGTAGyTTTA | 4680 |
| 10 | TTGTTTGCAg | CTGAACCAAC | TGATTTTTGC  | GTATCATTAG | TATCTGCTGT | TGCCGTATCA | 4740 |
|    | TCTTTTTGGC | TAACATTAGT | TGAAGTCATT  | TTTTCTTTTG | CTTCAGAAGA | TGCAGATGTT | 4800 |
|    | GATGGTTTAT | TCGAAACTTC | AGTATCAGCT  | TTGCTTGGCG | ATTTATCTGC | TTCGTTAGAT | 4860 |
| 15 | GCAACGTTAG | TTTCAGACTT | AAGTTGTCTT  | GCATCAGTTT | GATTTGTCTG | ACTTTCTTCT | 4920 |
|    | TTATCTTTTG | ATGTATTAGA | AGGTACATTT  | GGTTCTGTTA | TGTCTGCTGA | AGGCAATGTT | 4980 |
| 20 | TCAGTTGTtG | ATTCAACCAT | ACTTTGATTT  | GTTGAATCAC | TACCATCTTT | TTCTGCCTTA | 5040 |
|    | GCTTTATTTT | CAGATTTTGG | TTGTGCAACC  | TTGTCATTAG | TTGATTGAGA | TTCAGCACTA | 5100 |
|    | TTATTTACTT | CAGCATTTTG | TTTTGAATCA  | TTTACAGATG | CATTATCTTT | GCTATCAGCA | 5160 |
| 25 | GATGATGCTG | CTTCTGTGCT | CGCAGTTGTT  | GGAGCCGTTG | CTGTTGATCC | TGTTGGTGCA | 5220 |
|    | TTCTCGTTTG | TTGCTGTAGT | TGTACTATTG  | TTATTTGTTG | TGCTTTCTGC | TGGCGTTGCA | 5280 |
|    | TTATCAGTTT | CTGTTACAGG | TTTATCAGTT  | GTGCCGTTAT | TAGTTGATTC | TACTTCTGGT | 5340 |
| 30 | TTACTAGTTA | CATCGTTATC | CATTGTGCGA  | CTGTTTGTG  | ATGCATCTAC | ACTAGAATTG | 5400 |
|    | TTATTAGCTT | GCGGTTTATC | ATTTGCATCA  | TCAGTTGCTG | ATGTTGCTGT | TGTTTCACCT | 5460 |
|    | GTTGCCGCAT | CATTATTATT | TGGTGTGTC   | GGAGAAGCGT | CTGCTTTGCC | ATTAGCTGTC | 5520 |
| 35 | GTCTCAGATA | CGTTAGGTTG | TCCAGTATTT  | TCTGGTGTG  | CATTAGCATT | TGAATTTGCT | 5580 |
|    | GTTGCATCAT | TATTATCTAT | ACCATTATTA  | GTATCATTAG | CATCTGGATC | ATTCTGAGGC | 5640 |
| 40 | ACAATCGCTT | CAATTGCAGG | TATCGTTACA  | TTTTGTAATT | CAGCAACTTC | TGCATTTGTT | 5700 |
|    | TGTGTTTTAT | CTAATTTATC | AGCAAATCTG  | TCAAAATATC | TACCTAAATC | CGTACGTGCA | 5760 |
|    | ATTTCTTTTG | CCGATGCAIC | TGCATCTGCA  | TTTTTAATTA | TTTCTATTTG | CTTGTTAACC | 5820 |
| 45 | ACTTCTCTGA | TTGCTTCCAA | AGCATTTTTT  | TTAACTTCAG | GATTAATACG | TTGTGCTTTA | 5880 |
|    | AGTTGTTCAA | GCGCACTATT | TTTGACAGTA  | GCGATTTCTG | CATTTGTAGT | TTGATCAGAA | 5940 |
|    | ATATCTTCAG | TTGCTTTTGA | TAAAATGTCT  | TCTAAAGCAT | TCGTAAACGC | TTCTTTTTCT | 6000 |
| 50 | TCAGTTGTAG | CATCAGCGTT | GACATTTTACA | CCTGCTTCAA | TCTGGTCTAG | TGCAGTTTCT | 6060 |

(2) INFORMATION FOR SEQ ID NO: 535:

(A) LENGTH: 977 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 535:

10 AACAAAGCCT TCCAATTATC TCGTCGGTA GAACAAGTAT TAGCAACTTT ATCACCTACG 60  
 CTAAACAGTC CTTACGATTT ATACGGCAGC ACAAAAATGC TAGATATTAC ATTCGATTCA 120  
 TTTGAACATG ATGGTACAAC GTACCCTGTC GACTATGCTA CGTTTGAAAA TGATTATGAA 180  
 15 GATAATAAAG ATCCTGAGTT TAGACGTAAA AGTTTCAAAT CGTTTAGCGA TGGGATTCTGA 240  
 AAATATCAGC ATACTACCGC GGCTACATAT AATATGCAAG TACAACAAGA AAAAATTGAA 300  
 GCTGATTAC GTGGATTTGA ATCAGTCATC GATTATTTAT TACATAGTCA AGAAGTAACG 360  
 20 CGTGATATGT TTGACCGTCA AATCGATATG ATTATGCGTG ACTTGGCACC AGTTATGCAG 420  
 AAATATGCTA AACTTTTACA ACGTATTCAC GGATTAGATA ACATGCGTTT TGAAGACTTG 480  
 AAGATTTCTG TAGACCCTGA TTATGAACCA GAGATTTCAA TTGAAGACTC AAAAAATTAT 540  
 25 ATTTTCGGTG CGTTAAGTGT TTTAGGTGAT GACTATACAA ACATGTTACG TGAAGCATAC 600  
 GATCAGCGAT GGaTTGATTT TGCACAAAAT AAAGGTAAAG ATACAGGCGC ATTTTGTGCA 660  
 30 AGTCCATACT TTACACATTC ATATGTGTTT ATTTCTTGGA CTGGTAAAAT GGCTGAAGCA 720  
 TTTGTCTTAG CACATGAATT AGGTCATGCA GGTCATTTTA CATTAGCTCA AAAACATCAA 780  
 CCATATCTTG AATCAGAAGC ATCAATGTAC TTTGTTGAAG CCCCTTCTAC AATGAATGAA 840  
 35 ATGTTGATGG CCAATTATTT ATTTAACACA AGTGATAATC CAAGATTTAA GCGTtGGGTT 900  
 ATTGCTCAA TTTTATCTAG AACATATTAT CATAATATGG tACCCmTTTA TTAGAAGCnG 960  
 CTTATCCACG GGGAGTG 977

40

## (2) INFORMATION FOR SEQ ID NO: 536:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1440 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

45

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 536:

50

AGACAGTGAT yGaATTTTCAT TTACAGTACA CAAATCATCG AAAAAATTGGT AACATTCTTC 60  
 TCTATTTTCT AACGTTAgwA TTgCATCAAA CAATTCATCT AACGCTGCAC CTCGTAATTT 120

55

AATCTATTAA AGTGTAGCGa TTTATATTTT ATTAAATCTG AATCGTTACT TTATTTAATT 240  
 TTATGCTAAT CCAGCGCGTT CGAAAATAGT GTCAACTTGa TTCAAATGAT GTTTAGGATC 300  
 5 GAAACATTCA TCCAATTCTT CTTTTGTAA AACACTTGTA ATAGACTCAT CTTGTTTCGAT 360  
 TAATTCACGG AACGGTGTTC TCGTTTCCCA AGATATCATC GCTTTTGGTT GTACTTTGTC 420  
 GTATGCTTCT TCACGAACCA TACCTTTATT AATTAATGCT AATAAGACAC GTTGTGAGAA 480  
 10 AATCAGACCA AATGTTTTAT CTATGTTATT ACGCATATTA TCTTCAAATA CAGTTAAACG 540  
 GTCCACAATA TTTGTGAACG ATTCAATGCA TAATCTAGTG CtATTGTAAC ATCTGGTAAC 600  
 15 ATAATACGCT CAGCAGAAGA ATGAGAAATA TsTCTTTCAT GCCATAATGG CACATTCTCA 660  
 TAAGCTGTAG TAATATAACC ACGAATGACT CTTGAAATAC CTGTGATATT TTCAGAACCA 720  
 ATTGGATTTC GTTTATGAGG CATTGCAGAT GAACCTTTTT GGCCTTTTGC AAATGCTTCT 780  
 20 TCAACTTCTC TCGTTTCGGT TTTTGAAGG TTACGTATTT CAACGGCAAA TTTTCTAGT 840  
 GATGTCGCGA TTAATGCTAA TGTCGCAATA TAGTATGCAT GTCGATCGCG TTGCAATGTT 900  
 TCGGTTGATA CAGGCGCTGT GCCAATACCT AAATGTTTAC ACACATAACT TTCTATTTCA 960  
 25 GGAGGAATGT TAGCAAAAGT ACCTACTGCA CCACTCATTT TCCCTACTTC AATTTCTTCT 1020  
 CTTACTTGTT TGAAACGTTG TAAGTTACGT TGCATTTCCG TGTACCACAA TGCCATTTTG 1080  
 ACACCAAATG TAGTTGGTTC TGCATGCACT CCATGTGTAC GTCCCATCAT CAATGTATAT 1140  
 30 TTATAATTTT TTGCTTTTTC AGCTAAAACG TCGATAAATC TTTCTAAATC TTTTCAATA 1200  
 ATGTCATTTG CTTGTTTAAT AACGAACTT AAAGCTGTAT CTACAACATC AGTAGAAGTT 1260  
 35 AAACCATAAT GTACcACTTA CGTTCTTCAC CTAGCGTTTC AGAACTTGT CTAGTAAAGG 1320  
 CTACAACATC ATGGCGCGTT TCTTGTTCAA TTTCTTGTGC ACGTTCGACA TTTACCTTTG 1380  
 CGTTTTGACG AATTTTTTGT ACGTCAGCTT TCGGTATATG TCCTAATTCA CTCCATGCTT 1440

(2) INFORMATION FOR SEQ ID NO: 537:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 784 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 537:

50 GATAAATCTA ThCAGTTTCC GTCCAAATAT CtGCaCCTAA AGCTTTTAaG TGTTCTACAA 60  
 TATCTgTATA ACCTCTATAA ATATGTTTAA CATTGTAAAT TGTAAGTTACA CCCTCAGCAA 120

|    |   |     |
|----|---|-----|
|    | CATGTAATGT TGATGGTTTT ATCGTTGCTG TGCCTTCGTC AACTTCAATA TTTGCACCCA | 240 |
|    | TGCGCTTTAA TTCTTCAACA TGTTTAAAAC GCTCCGGATA AATCGTATCA GTTACAAATG | 300 |
| 5  | AAGGACCATT TGCCATAAAT AATAATGGTG TAATAGGCTG TTGCAAATCA GTAGCAAAAC | 360 |
|    | CTGGATATAC TAGTGTTTTA ATATCAACAA ATTGATATGG CGCATTATTA TTGATGCGAA | 420 |
| 10 | TTCTTTCGTC TCTTACATCA ACATTCACAC CTAATTCACT AAATTTAGCA GTTAATGTTT | 480 |
|    | CTACATGTTT CGGAACAATA TTATTTAATA TAACATTTTC TCCACATGCT GCAGCGATAC | 540 |
|    | ACATATATGT GCCTGCTTCA ATTCTATCAG GTATAACTTG ATACTCAGAA CCATGTAATT | 600 |
| 15 | CTTTGACGCC ATTGATTTTA ATTGTTGATG TACCCGCTCC CTTAATATTA GCTCCCATAC | 660 |
|    | TTGTAAAGAA GTTAGCAACA TCAACTACTT CCGGTTCTTT AGCAGCATT TCAATTACAG  | 720 |
|    | TTTGTCTGT TGCATAAACT GCAGCTAGCA TAATGtnAAT TGTTCACCT ACGCnAACCA   | 780 |
| 20 | TATC  | 784 |

## (2) INFORMATION FOR SEQ ID NO: 538:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3733 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 538:

|    |  |     |
|----|--|-----|
|    | CAATCTCCAC CAATGACACG TCGTCATTCG TGACCTCATA CCAxACAAAA AACAGTCTCG  | 60  |
|    | CAATCAAGAC TGTTCCTCCAC TCAATATATT CATCCATTAG CGTAATAGAT TATTTGACTT | 120 |
| 35 | CTGTAGCTAC AAAGaTTTTA CGTTTTTCCC AAACGCCTGT cTTTTTCATTG TAATCATCAC | 180 |
|    | AAGTAATTAA TGTTAATTGT TTATCTTTAC CTTTTTGTTT ATCTAGAACT CCTACATCTG  | 240 |
| 40 | TAGGCTTAAC ATCTCTTATA CTTGTCATTT TATACTTACG TGTTTCATTA CCAACTTTAA  | 300 |
|    | AGTACACCAT ACTACCTTTT TTGGCTGCTT TAAGATTTGT AAATTGATAG TTCGGACGGT  | 360 |
|    | CAATGAAAGT GTGTCCTGCA ATTGAAATAT TTTGATCATC TAGTGATTCA TTTTCTTCTG  | 420 |
| 45 | CAAAGCTTAC ACCTCTATTT AATTGTTTAC GTGTTGCTGG TCCTGGATAT ACTGGTTCTT  | 480 |
|    | TAATATCAGC ATCTGGAATT TCAATATAGC CTGCCACTTT CGATTTATCT TTCGGAATTT  | 540 |
|    | GAGGTTTAGC TTGCTGCTTT TTATCTTTAC TCGCCTGTTT TTTTACATTT TTATCATATT  | 600 |
| 50 | GTTCAATCTT TTCATCTTTA TCTTTATCGT GAAGATAATT ATCGATATGT GGTTTAGCAA  | 660 |
|    | ACAAATATGC TGCCACTAGG aTAAGTACCA CACCAGCGAT TGTCATTAAT CGATTTGTCC  | 720 |

|    |  |      |
|----|--|------|
|    | AGTATACCAT TAATTTCAAA ATGACTCATA GCAATTCATT TTATACTATA AAATTTACAT  | 840  |
|    | GTATACTTTT ACGTTAGATT TCATTACACA TATTTGCATT CAAATAACGA AACGCTTTTA  | 900  |
| 5  | ATAATTACTA AGGGGGAATT GATATGATTA GATACGCTAA AAAAGAGGAT TTAAACGCTA  | 960  |
|    | TATTAGCGAT ATACAATGAT GCCATTATCA ATACTACAGC TGTTTATACT TATGAACCAC  | 1020 |
|    | AAACCATAGA CGAACGTGTC GCATGGTTTG AAACGAAACA ACGTAAGCAT GAGCCTATCT  | 1080 |
| 10 | TTGTATTTGA GGAAAAATGGA AGTGTCTTAG GGTTCGCGAC GTTCGGTTCA TTTAGACCTT | 1140 |
|    | GGCCAGCATA CCTATATACA ATCGAACATT CTATTTATGT CGATGCTTCA GCTAGAGGAA  | 1200 |
|    | AAGGTATTGC TAGTCAATTA CTACACCATT TAATTGTGGA AGCAAAAGCT AAAGGTTATC  | 1260 |
| 15 | GTGCGCTAGT TGCAGGCATT GATGCTTCCA ACAAAGCGAG TATTCAGTTG CATCAAAAGT  | 1320 |
|    | TTGCTTTTAA GCATGCCGGC ACACTGACCA ATGTAGGTTT TAAATTTAAT AGATGGTTAG  | 1380 |
| 20 | ATTTAGCATT TTACGAATTA GATTTACAAG ACTAGTAATG TTTGAATCAC ATAATATAAA  | 1440 |
|    | CAAGACAACC ATGTTAATTC CCTTAACATA ACAAGCCAAC ATATAAAATT TTAAACTTCT  | 1500 |
|    | CAGGGGAGTG GGACAGAAAT GATAAAGAGC CACTAATGAT TTATTATGTA GTGGTTCTTA  | 1560 |
| 25 | CACATTAGCC ACAGCTAATG TGTACTTAAA AATAGGAATA CATGAGTAAA ACTCATGCAT  | 1620 |
|    | AAGAAATACT AATTTCTATA GAAAAAGTAT TTCTTTATCG TCGTCCCACC CCAACTCGCA  | 1680 |
|    | CATTATTGTA AGCTGACTTT TCGTCAgCTT cTGtGTTGGG GCCCAAAAAG CTTGTTACAA  | 1740 |
| 30 | GCGCATTTTC GTTCAGTCAA CTACTGCCAA TATAACTTTG TAGAGCATAT TACATTGATT  | 1800 |
|    | TACATTGTCC CTTTTATTTA TTCTTTTCAA ATACTATCCC CATAGCTTTG ATTTAACGCT  | 1860 |
|    | TTTTCTCAAT AACAAAACGA ATATAGTAGA ACATGAAAAC GATAATCATG CTGAGCGATA  | 1920 |
| 35 | AAGATTTAAA TAATAGATTG ACCCACGTTT CCTCAGTCGT ATATCCATAT GTAATCGTTG  | 1980 |
|    | TGTTAATGAT GAATGCTATA AAGATGATTG ATAGTCTTAG CATATCATCA CTCCTTTTAA  | 2040 |
| 40 | GTTATTTTAG ATATACGGGG GCGCTTTTGC AATCACTATT TTGATTAGTA TGCATTTTCC  | 2100 |
|    | ATAAATCTTT CAACTTCTTC AGAGATAATT AAGAAGCATC TATCTGGTAC TAATGATCCA  | 2160 |
|    | GACAGATGCT TCTTTTTTAT CAATATTTTA TTGTTATCTC ATTAATTATT TTTAACCATA  | 2220 |
| 45 | TCTTCAGCTG TGCCAAAGAT TTTACGTTTA ATTGCTTCGC CAGTTGGTGT GCCTGCTAGT  | 2280 |
|    | CCACCCAATC CAGTTTCACG TAATGATGCA GGAAGGTTAC GACCAACCTT ATCCATTGCT  | 2340 |
|    | TCAATAACTT CATCAACAGG GATTCTACTT TCAATACCTG CTAATGCTAA ATCTGCTGAA  | 2400 |
| 50 | ATTAAAGCGT TACCCGAACC AATTGCATTT CTCATAACAC AAGGAATTTT AACAAGTCCG  | 2460 |
|    | GCTACTGGAT CACAACTAA ACCTAATAAA TTACTTATCG CTAATGCCAT AGCGTGCCCG   | 2520 |

|    |  |      |
|----|--|------|
|    | GAACCAACTT CAGnTTGGCA GCCACCTGTT GCACCAGCTA CACTTGcATT GTTTGCTACG  | 2640 |
|    | ACACGCCCCAA ACAATGCTGA AGTGAATAAG AAATCAATCA TTTGCTCTTC TGTTAAATCA | 2700 |
| 5  | TGTGTTTTTTT CTAATTTAAA AAGTGCACCG GGAATGGTAC CCGAGGAACC AGCTGTTGGC | 2760 |
|    | GTtGCACAAA TAATACCCAT CGCAGCATTG ACTTCATTTG TTGCAATGGC AcCtTTGcTG  | 2820 |
|    | CGTCAATCAT TTCATATCCA GACAAAGCAT GATGTGTTTC ATTATAATCA CGTAGTTTAG  | 2880 |
| 10 | CAGCATCATG ACCAGTGTAG CCCGTTACAC TTTCAACCCC ATCACCTGTC GTCCCTTTGA  | 2940 |
|    | TTACTGCGTC TCGCATGACA TCTAAATTTT GTTTCATTTG CGCTCGCACT TCATCACGTG  | 3000 |
|    | ATTTACCGCT TAATTCCATT TCTTCTTTAA CCATGATATC CGCAAATGAC ATATTATTTT  | 3060 |
| 15 | CTACGGCATA ATCTATAGTC TCTCTAATTG AATCAAACAT GTTTATTCCC CCTCTAATTT  | 3120 |
|    | ATATAGGAAA CGTTTACGTC ACTGTATTTT TCTTTAATTG TATTTAATGT TGATTCTGAG  | 3180 |
| 20 | ATTGCTTTAT TTAATGGTAT TACAACCAAG CATTATCTT CATCTATCTT AATAAATTCA   | 3240 |
|    | TCTTTACAGT CTAATTTTCAT ATCGTTGATA TCATTGATGA AATGATTAC TTGTGCTTTA  | 3300 |
|    | GTCATATTTT CGTCAACAAC TAAAATTGGT AATCCATGAT TTAAATCTAC TTCTAGTCCA  | 3360 |
| 25 | TTTATATGAA TACCTTTAAT TTAAATTGTA CCACCACCGA TTGAAATACC GATAATTTCA  | 3420 |
|    | ATGTAGCGAC CATCATTACG AGATGATTTG ATATAAGCAC AGTTTGGATG TTGACCAATA  | 3480 |
|    | CTATCGCCTT CTTCTTCGAT GATATCTATT TTAATACCAT CATCAGCTGC AATTTCTAAT  | 3540 |
| 30 | GAAGATTTAA TTCGGTTATC AAATGTTGAA TATCCCATG CTCCACCCAC AATAGCGACA   | 3600 |
|    | TCTGTACCAT GTCCTTGGTG TGTTTGAGCA AATGATTCAT AATAATGTAT TTCAATATTT  | 3660 |
|    | TTATATCTCC CAATATTGCG CGTGCTGAAT TCCCCTTTAC TGCACCAGCC GTATGAGAAC  | 3720 |
| 35 | TTGAAGGGCC CAT   | 3733 |

## (2) INFORMATION FOR SEQ ID NO: 539:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 525 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 539:

|    |   |     |
|----|---|-----|
|    | TGGCTGTCTT CTCTATGAGT GTAGTAAGTA AGTTAACGGA TTTAACGCCA AGGCAAATAC | 60  |
| 50 | GTTACTATGA AACACATGAA CTCATCAAAC CTGAAAGAAC AGAAGGTCAA AAACGTCTGT | 120 |
|    | TCTCACTCAA TGATTGGAA AGATTACTAG AAATTAAATC ATTATTAGAA AAAGGATTTA  | 180 |

AAGAGATAAG AAAAAAGATG ATTGTAGATG CCACGCAAAA GCCTATTGGA GA~~r~~ACTTTTGC 300  
 CAATAAATCG TGGTGATTTA TCCCGATTTA TTAAATAAAA TTTGGAGGAT TTTAAAATGC 360  
 5 CAAAACGTAC TTTC~~A~~CTAAA GACGACATTC GTAAATTTGC AGAaGAGGAA AaTGTAaGaT 420  
 ATTTAAGATT ACAATTC~~A~~CT GATATTTTAG GAACAATTAA AAATGTTGAA GTGCCTGTAA 480  
 10 GCCAATTAGA AAAAGTACTT GATAACGAAA TGATGTTTGA CGGTA 525

## (2) INFORMATION FOR SEQ ID NO: 540:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1408 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 540:

TTGATTTGCT ACAAAGTATC T~~n~~CTCATTTC TGTATCCTGA AAAATCTTTA GTGTAATAAT 60  
 GTTGTTCA~~G~~T TTTAATATTT TCAGTCATAG TTGACTACCT CCGTATATTT TGATTTAATT 120  
 25 AAGTTGTATA TTTTGATGAA CACTTATTGT TACTTGTGG CGCAAGTAGC AGTTTTTTTCA 180  
 TTCTTCATAA AAGTATTCCT TATAGAATAT GAATGTTGCG ATACTTGCGA ATCCTGCAAT 240  
 TGaCCATGCT GtAGTGAAGT ATAGAAACGG CATAAGTACA ATCGCTAAGA CTGTGAAGCA 300  
 30 TAGTACTGCT ACTAGGTAGC TTTTATAAAT GTTACTCATT TTCTTTTTTTC AACTCCTCCA 360  
 TTATTCTCTG GTCTGATAAG TCGTGATAAG GGAATTTTTT CctAGCTAAT TGGACTGGTA 420  
 TTCTGCCTCG TATCGCAATG TATCCTTCAT CTTCAAGCTC TTTATTCAGT TCTCTTATTa 480  
 35 TTTGTCTGCT TTTGGATTTA GAAACAGATA AAATTACCgC AAGTTCTTTA GCTTGCAAAC 540  
 TATTTTTTCAT CATATCTTTT CCTCCTTTAA AATAACTGTT GATTCTCTGG GTTATCTGCT 600  
 40 TCGTAATTAT CTGCAATAAT ACTTTTAGCG AAAAAGTCCA AACTGACCTT ATATAGGTTG 660  
 TTCATAGATT TCTTTACGTT AACCCCTTCC TCAAGTACAT AAGGCACCCT AAAATCATTT 720  
 ATAAACAGTC CGTTTTTCGTC TAAAGTAACG GTTGGAATT CAGGTTTGTT CCGTCTATAA 780  
 45 ACTTCTCCTA GTGTAGGTTT TTGCTTTTCA GCTTGTTTAG TGAAGTCGGA AAATGCCTTA 840  
 AGTAGTTTta TTCCTGAATC AGGATCACTG TGTCGCTCAA TCGTTTCTGC TGTAGACTCT 900  
 TTA~~C~~TAAAAT CATTTCTATT GATTACAGGC TTTCTCGTAT TTCGTTCAAT CTTCCAAACC 960  
 50 TTCCACGTCA CAACTGCCAT TGTGGTGAGG AGGGTTGTTT TGTATAGTGC GTTCATTTGT 1020  
 AATTCCTCCT ATTAAGTTGT TTGTTCAATT GTGTGTGTTA TTCTTCTTCG TCTAAATCAA 1080

CGACTTCGTA AGTGTGCTCA ATCTCGCCTG cATATGTCAC AGTAAGAGTA TCTTTGTGTG 1200  
 TGTATGTTTG ACTTTTGTTy TCTtTAACTG CATAAAGTGT TAATACTATA TTGTTTAGCT 1260  
 5 TTyCTTTTTG TTCTGGTGTC ATTTACGCTC CCCCTAmATT AGCyTCATAA CCGAATTCAG 1320  
 TCATGATTTC ATGTATTTTC AATCTGCCTT TTTGTGTCCA TCTAGTTTGT AAAACTGTGT 1380  
 CTTCTCTGCC ATCAGAACGC ACAATTGT 1408

(2) INFORMATION FOR SEQ ID NO: 541:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 432 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 541:

GTTTCGTCAAT GATTTTTATC CGATGCTATG AGCATTaTCA AATACAAAAT GCTCTCTTAA 60  
 AAGCAGTTAT TGA CTGAAAA TCTACTTCTA AGAGAGCACT TTATTTAATT ACTTAAGAAA 120  
 25 TCTTGAAATT TCAATATACG ATGTTTATGA TAAGTCGCTT ATTCATCTT TAGGCTTGTT 180  
 ATTAGTAAGT AGTTTAATAC CACTGATTAA CCATAAGCA AATGTAATTA TGTTACCACT 240  
 TATTACAGCT CCAATAATCA ACAATATACC ACTCATTTTT TTGTTTTTAG ATGCTTTAAA 300  
 30 CATACCGATT GCACCTAAAA TAATTGAAAT GATTCCAAAT ATGAATAGGG ATAAGAATAA 360  
 TACAGTGAAA ATTGCTGCTG CTGTTTCTGc ATCAACTGGG nCAACCTCAC CATTAACTGT 420  
 TGTTGGACAC AT 432

(2) INFORMATION FOR SEQ ID NO: 542:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 2426 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 542:

ATAATCATGA AGTrGCTAAA nCGCCAAATA ATGATGGTTC TGGACATGTT GTGTTAAATA 60  
 AATTCCTTTC AAATGAAGAG AATCAAAGCC ATAGTAATCG ACTCACTGAT AAATTACArG 120  
 50 GAAGCGATAA AATTAATCAT GCTATGATTG AAAAATTAGC TAAAAGTAAT GCCTCAACGC 180  
 AACATTACAC ATATCATAAA CTGAATACGT TACAATCTTT AGATCAACGT ATTGCAAATA 240

|    |  |      |
|----|--|------|
|    | GTATAAAAAG TCAACGAAAT ATTATTTTGG AAGAACTTGC ACGTACTGAT GATAAAAAGT  | 360  |
|    | ATGCTACACA AAGCATTTTA GAAAGTATAT TTAATAAAGA CGAGGCAGTT AAAATTCTAA  | 420  |
| 5  | AAGATATACG TGTGTGATGGT AAAACAGATC AACAAATTGC AGATCAAATT ACTCGTCATA | 480  |
|    | TTGATCAATT ATCTCTGACA ACGAGTGATG ATTTATTAAC GTCATTGATT GATCAATCAC  | 540  |
|    | AAGATAAGTC GCTATTGATT TCTCAAATTT TACAAACGAA ATTAGGAAAA GCTGAAGCAG  | 600  |
| 10 | ATAAATTGGC TAAAGATTGG ACGAATAAAG GATTATCAAA TCGCCAAATC GTTGACCAAT  | 660  |
|    | TGAAGAAACA TTTTGCATCA ACTGGCGACA CGTCTTCAGA TGATATATTA AAAGCAATTT  | 720  |
| 15 | TGAATAATGC CAAAGATAAA AAACAAGCAA TTGAAACGAT TTTAGCAACA CGTATAGAAA  | 780  |
|    | GACAAAAGGC AAAATTACTG GCAGATTTAA TTAATAAAAT AGAACAGAT CAAAATAAAA   | 840  |
|    | TTTTTAATTT AGTTAAATCG GCATTGAATG GTAAAGCGGA TGATTTATTG AATTTACAAA  | 900  |
| 20 | AGAGACTCAA TCAAACGAAA AAAGATATAG ATTATATTTT ATCACCAATA GTAAATCGTC  | 960  |
|    | CAAGTTTACT AGATCGATTG AATAAAAATG GGAAAACGAC AGATTTAAAT AAGTTAGCAA  | 1020 |
|    | ATTTAATGAA TCAAGGATCA GATTTATTAG ACAGTATTCC AGATATACCC ACACCAAAGC  | 1080 |
| 25 | CAGAAAaCGt TAACACTTGG TAAAGGTAAT GGATTGTTAA GTGGATTATT AAATGCTGAT  | 1140 |
|    | GGTAATGTAT CTTTGCCTAA AGCGGGGGAA ACGATAAAAG AACATTGGTT GCCGATATCT  | 1200 |
|    | GTAATTGTTG GTGCAATGGG TGTACTAATG ATTTGGTTAT CACGACGCAA TAAGTTGAAA  | 1260 |
| 30 | AATAAAGCAT AATTATATTG GGGGAAGAGC ATCTATATAT TTTTTTAAGT ATATAAGACG  | 1320 |
|    | TCTTATTTCC CCTTAATTTA TTGTGAAGTA TATGCAAAAT GCAATGAATA GATTGTCCAT  | 1380 |
| 35 | CATTTTAACG TTATAATGAA TTTAACGACT TAGAACTACA CAAGTAAAGG AGAATGAAGA  | 1440 |
|    | TGTCTCGAAA AACGGCGCTA TTAGTTTTGG ATATGCAAGA AGGTATAGCG AGTAGTGAC   | 1500 |
|    | CTAGAATAAA AAATATTATT AAAGCGAATC AGAGAGCAAT TGAAGCAGCA AGACAACATC  | 1560 |
| 40 | GAATACCACT CATTTTCATA CGTTTAGTGT TAGATAAGCA TTTTAATGAT GTCTCCTCGA  | 1620 |
|    | GTAATAAAGT GTTTTCAACA ATTAAAGCTC AAGGATATGC GATTACTGAA GCAGATGCAT  | 1680 |
|    | CTACACGAAT ACTTGAAGAT TTAGCACCAC TAGAAGATGA GCCGATTATT TCTAAGCGAC  | 1740 |
| 45 | GCTTTAGCGC ATTTACAGGT AGTTACTTGG AAGTTTATTT ACGTGCAAAT GATATTAATC  | 1800 |
|    | ATTTAGTATT AACGGGTGTC TCTACAAGTG GAGCTGTATT GAGCACGGCA TTAGAAAGTG  | 1860 |
|    | TAGATAAAGA CTATTATATT ACTGTTTTAG AAGATGCTGT TGGTGATAGA TCAGATGATA  | 1920 |
| 50 | AACATGACTT TATTATTGAA CAAATTTTAT CACGCTCATG TGACATTGAA TCCGTAGAGT  | 1980 |
|    | CATGGAAAAG TAGTTTATAG TTAATATAAC GTCAATTAAA GCTCGGCAGT AATGTTTGAG  | 2040 |

GAGGAACATT TGAACATAAA ATAATATATT TATATAAAAC GACCgAGGCG TTCGAACTGA 2160  
 ATGtCCTCGG GTTTAATTGA ATAGAAATCG GACTTATGAA CGAAATATGT TTAAGTCGAA 2220  
 5 CTCCTTGTTT ATACTTATAA ATTTTACGGG TTTAATATAA TACTTATTTA CCTGTAATAT 2280  
 ATGCATAATT nCTTCAGTCG GTCAGCCTGT CGTTGCATAG TTCCTATGCA GCAAATGCAT 2340  
 ATCCTAATCC TTAAACATTG GCATTnCTGC AAATGAACGC ATAGAATCCA TTTACTGTTA 2400  
 10 ACTTTTTnCA ACAAATGTCT nACATG 2426

## (2) INFORMATION FOR SEQ ID NO: 543:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1874 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 543:

GAGTTGGGGA ATGTGCTCAA AATATGCGGA CTTTATGCAT TyCGGAATTG sCCaATTGCA 60  
 25 GCTTTAAGCT ATGGTCAAAA AAAGAGGGTC ACTATAGCAT CTGTTTTAGT CTTAAATCCG 120  
 GAAATAATCA TATTGGATGA ACCGACTGCT GGTCAAGATT TCTATCATTA TAATGAGATA 180  
 ATGTCATTTT TAATTGAACT AAACAGACAG GGGAAGACGA TTATTATGAT TACGCATGAT 240  
 30 ATGCATTTAT TGTCTGAGTA TAGTTCAAGA ACAGTTGTAT TATCAAAAGG TCAAGTCGTT 300  
 GCTGATACCA CGCCAgTATT GGTTTTAAAT GATAAAAAA TCTGTGAGAT TGCATCATTG 360  
 AGACAAACAT CGCTATTTGA AATGGCCGAA TATATAGGGA TTAGCGAGCC ACAGAAATTA 420  
 35 GTACAATTAT TTATTAACCA TGATAGGAAG GTGAGACGcC AATGAATCAA TATAATACTA 480  
 TAGGTTTTCA CCCGGGAAAT AGTCGTATTC ATCAATTAAA TCGGACTGTT AAACTTTTAT 540  
 TCTTATTAGT TGTTTCTATT TCTGCAATGG TGACTTATGA CACAAGATAT TTAATTTTAA 600  
 TTAGTGCTTC ATCTATTTTA TTGGTCAAAT ATGCTCATAT TGAATGGAAA CAAGTTCGCT 660  
 TTGTTGTAA ATTCAATTCTG TTTTTCACAA TAaTAAATAT TATTGCCGTG TACATATTTG 720  
 45 ACCCTGAATA TGGTGTGAAG ATTTATAATC AGCGTACAGA GTTAGTCAAT GGTATTGGTC 780  
 GATTTACGCT AACATCACAG GAATTATTCT ATCTTTTTAA TCTAATATTA AAATATATTA 840  
 GTACAGTTCC TTTAGCGTTA ATATTTTAT TCACAACGAA TCCGAGTCAT TTTGCTGCAA 900  
 50 GTTTAAATCA GCTAGGTGTG AATTATAAAA TCAGTTACGC AGTCTCACTA GCATTAAGGT 960  
 ATATTCCAGA TATTCAAGAA ACATATTtta ATATTTTACA AGCGCAACAA GCAAGAGGAT 1020

|    |   |      |
|----|---|------|
|    | TACCTTTAAT ATTTTCTAGT ATCGAAAGAA TTGACACTAT TAGTACTGCT ATGGAGTTAA | 1140 |
|    | GACAATTCGG ACAGTATAAA AGGAGAACCT GGTACGTCAA AAAACAATTA AAAAAAGATG | 1200 |
| 5  | ATTATGTTGT TTTGTGTTTG ACGTTAATAC TTCTGATGTT AGTAGTTACA TTATTCTTTT | 1260 |
|    | TAAATAATAG TCGATATTTT AACCCGTGGC ATTAGTATTC ATATAAATAG TCTTTAAATA | 1320 |
|    | GAAATAGGAG GGAGACATTT AATGATAAAT ACTGAAAGAT TAAATTTAAT GATTCCAAGT | 1380 |
| 10 | TCCTCGCATT TAATTGAACT TTATAATATT TGTAGTCATC CACAAGCAAA TATATACACT | 1440 |
|    | CCCAAAGGTT TACATAATTC CAAATTAGAC ACACAACGGT GGATTGAAAA ATGGCGAAAC | 1500 |
| 15 | CATTGGCAAC AATATCAATT TGGTTACTTT GTATTGGTAA AAAAAATAGA TTGTAGTGTT | 1560 |
|    | ATTGGTATTT GTGGATATGA ATATCGACAA TTAAAGCAAG AaACAGTATT AAATTTATTT | 1620 |
|    | TATAAATTAC ATCCAAGTTT TGAAGGACAA GGGTACGCAT GTGAGGCTAT TACAGCAATC | 1680 |
| 20 | ACAAATTTTG TGAATTATAT CGATCAAGAA ACAGTAAAAG TTATCAGGAC AAATAAGTGT | 1740 |
|    | AACCAACGTT CAATAAATTT AGCAGAAAAG CTTAAATTCA AGCGAGACGA TACTATGGAC | 1800 |
|    | GACATTATCA ATCAAGGAGA TATTGTGTTT TAAaAATAAA ATACTATGAC ATTATCTAAA | 1860 |
| 25 | AAATAAAATT AAAA   | 1874 |

## (2) INFORMATION FOR SEQ ID NO: 544:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5280 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 544:

|    |   |     |
|----|---|-----|
|    | TCAACATTTT TAACACCAAT GTGAAAATGA TCTATGTGAT TTGCAATGGC TTGATTTGTA | 60  |
| 40 | ATATGTGTGC CTAAATGACC TGTAGCACCT GTTAACATAA TATTCATTCA CTTCATCTCC | 120 |
|    | TAATCTTTAT ATACATAACA TAATACTTAT TTGATGGTTT TCAAAACATT TGATTTTATA | 180 |
|    | AAAAATTCTA ATCTGTATTT ATTGTCGACG TGTATAGTAA ATACGTAAAT ATTATTAATG | 240 |
| 45 | TTGAAAATGC CGTAATGACG CGTTTTAGTT GATGTGTATC ACTAATATCA TTGAAAATTT | 300 |
|    | TAATCaGGTA CTACGACAAT ATGATGTCTG TTTTGTGTCT GAAAGTTTTA CAGTTTTTAA | 360 |
| 50 | AATAAAAATG GTATAAAGTG TGATTTGTAT AAAAAAGAGT CTCGACGGAT AAGAATTGAT | 420 |
|    | TAATAACAGT TAGCATTTTA TTAATTACCT TAACAATGAT TCAAGTTTAG TTAAATGAGG | 480 |

|    |            |             |            |            |            |               |      |
|----|------------|-------------|------------|------------|------------|---------------|------|
|    | AAGCAAGTTT | AGCATTGGGA  | ATGTTAGCAA | CAGGTGTAAT | TACaTCGAAT | GTACAATCAG    | 660  |
|    | TACAAGCGAA | aGCAGrAGTT  | AAaCAACAAa | GTGAaTCAGA | GTTAAAACAC | TATTATAATA    | 720  |
| 5  | AmCCAATTTT | AGAGCGTAAA  | AATGTGACTG | GATTTAAATA | TACTGATGAG | GGTAAACACT    | 780  |
|    | ATTTAGAAGT | CACAGTAGGG  | CAACAGCATT | CTCGAATCAC | TTTACTTGGA | TCTGATAAAG    | 840  |
|    | ATAAATTTAA | AGACGGAGAA  | AACTCAAATA | TAGATGTGTT | TATCCTTAGA | GAAGGTGACA    | 900  |
| 10 | GTAGACAAGC | AACAAATTAC  | TCAATTGGTG | GCGTTACAAA | ATCAAATAGT | GTGCAGTATA    | 960  |
|    | TTGATTATAT | CAATACGCCA  | ATTTTAGAAA | TCAAGAAAGA | TAATGAAGAT | GTACTIONTAAAG | 1020 |
|    | ATTTTTACTA | CATTTCAAAA  | GAAGACATCT | CATTAAAAGA | ACTTGATTAT | AGATTAAGAG    | 1080 |
| 15 | AACGTGCGAT | TAAACAACAC  | GGCTTGTATT | CAAATGGTCT | TAAACAAGGT | CAAATTACAA    | 1140 |
|    | TTACAATGAA | TGATGGCACA  | ACACATACAA | TCGATTTAAG | TCAAAAACCT | GAAAAAGAAC    | 1200 |
| 20 | GTATGGGTGA | GTCAATCGAC  | GGCACTAAGA | TTAATAAAAT | TCTAGTAGAA | ATGAAATAAT    | 1260 |
|    | ACTTTCTAAC | AACAAAGCGC  | TATGTTGAAT | AGTGCTTGTT | ATGGAAATAT | ATGGAAGTTA    | 1320 |
|    | AGCGACGTAC | TGTTGCTTAG  | CTTCTTTTTT | TGAGGGGAAA | AGTTACAAAA | CTCACACAAA    | 1380 |
| 25 | CAGTCGCACC | ACGCATTATC  | TTTTGCTTAA | ATAGCTTAAT | CATATTTTAT | GAATAGTTAA    | 1440 |
|    | AAACAGGTTA | ATGTGAATAT  | CCGAATACAG | CTCCTATAAT | ATGGGTGTAT | GATTCAAATT    | 1500 |
|    | ACGTAATAAA | ACAATCTAAT  | TATAATAGAT | TGGAGCATAC | AACTATGAAA | ATGAAAAATA    | 1560 |
| 30 | TTGCAAAAAT | AAGTTTGTTA  | TTAGGAATAT | TAGCAACAGG | TGTAAACACT | ACAACGGAAA    | 1620 |
|    | AACCAGTTCA | TGCCGAAAAG  | AAACCTATTG | TAATAAGTGa | AAATAGCAAA | AAATTAAAAG    | 1680 |
| 35 | CTTATTATAA | TCAACCTAGT  | ATTGAATATA | AAAATGTGAC | AGGTTATATC | AGTTTCATTG    | 1740 |
|    | AACCAAGTAT | TAAATTTATG  | AATATCATAG | ATGGTAATTC | TGTTAATAAT | ATTGCTTTAA    | 1800 |
|    | TTGGCAAAGA | TAAGCAACAT  | TATCATACGG | GTGTACATCG | TAATCTTAAT | ATATTTTACG    | 1860 |
| 40 | TTAATGAGGA | TAAGAGATTT  | GAAGGTGCAA | AGTACTCTAT | TGGGGGTATC | ACGAGTGCAA    | 1920 |
|    | ACGrTaAAGC | TGTCGACCTA  | ATAGCAGAAG | CAAGAGTTAT | TAAAGAAGAT | CATACTGGTG    | 1980 |
|    | AATATGATTA | TGACTTTTTTC | CCATTTAAAA | TAGATAAAGA | AGCGATGTCA | TTGAAAGAGA    | 2040 |
| 45 | TTGATTTTAA | ATTAAGAAAA  | TACCTTATTG | ATAATTATGG | TCTTTACGGT | GAAATGAGTA    | 2100 |
|    | CAGGAAAAAT | TACAGTCAAA  | AAGAAATACT | ATGGAAAGTA | TACATTTGAA | TTGGATAAAA    | 2160 |
| 50 | AGTTACAAGA | AGACCGTATG  | TCCGATGTTA | TCAATGTCAC | AGATATTGAT | AGAATTGAAA    | 2220 |
|    | TCAAAGTTAT | AAAAGCATAA  | CACATATACT | TGATGACGAA | ATAAGTTGAA | ATTGAAATAG    | 2280 |
|    | AGAGGTTAAG | TGACGATCAA  | ACGTTGCTTA | ACTTCTTTTT | AATGCTTAAA | AATTATTTCa    | 2340 |

|    |   |      |
|----|---|------|
|    | TTAATAATAC TTCAATAATT GTTAAAAGGG GTTTAATGTG ATTATCTTAG AACGCCATCT   | 2460 |
|    | ATAATGATGT TGTATGATTC AAATTACGTA AAAAGACAAT CGAATATAAT ATAGATTGGA   | 2520 |
| 5  | GCATACAATT ATGAAAATGA GAACAATTGC TAAAACCAGT TTAGCACTAG GGCTTTTAAAC  | 2580 |
|    | AACAGGCGCA ATTACAGTAA CGACGCAATC GGTCAAAGCA GAAAAAATAC AATCAACTAA   | 2640 |
|    | AGTTGACAAA GTACCAACGC TTAAAGCAGA GCGaTTAGCA ATGATAAACA TAACAGCAGG   | 2700 |
| 10 | TGCAAATTCA GCGACAACAC AAGCAGCTAA CACAAGACAA GAACGCACGC CTAAACTCGA   | 2760 |
|    | AAAGGCACCA AATACTAATG AGGAAAAAAC CTCAGCTTCC AAAATAGAAA AAATATCACA   | 2820 |
| 15 | ACCTAAACAA GAAGAGCAGA AAACGCTTAA TATATCAGCA ACGCCAGCGC CTAAACAAGA   | 2880 |
|    | ACAAATCACA ACGACAACCG AATCCACAAC GCCGAAAACCT AAAGTGACAA CACCTCCATC  | 2940 |
|    | AACAAACACG CCACAACCAA TGCAATCTAC TAAATCAGAC ACACCACAAT CTCCAACCAT   | 3000 |
| 20 | AAAACAAGCA CAAACAGATA TGA CTCCTAA ATATGAAGAT TTAAGAGCGT ATTATACAAA  | 3060 |
|    | ACCGAGTTTT GAATTTGAAA AGCAGTTTGG ATTTATGCTC AAACCATGGA CGACGGTTAG   | 3120 |
|    | GTTTATGAAT GTTATTCCAA ATAGGTTTCAT CTATAAAATA GCTTTAGTTG GAAAAGATGA  | 3180 |
| 25 | GAAAAAATAT AAAGATGGAC CTTACGATAA TATCGATGTA TTTATCGTTT TAGAAGACAA   | 3240 |
|    | TAAATATCAA TTGAAAAAAT ATTCTGTCTG TGGCATCACG AAGACTAATA GTAAAAAAGT   | 3300 |
| 30 | TAATCACAAA GTAGAATTAA GCATTACTAA AAAAGATAAT CAAGGTATGA TTTCACGCGA   | 3360 |
|    | TGTTTCAGAA TACATGATTA CTAAGGAAGA GATTTCTTGG AAAGAGCTTG ATTTTAAATT   | 3420 |
|    | GAGAAAACAA CTTATTGAAA AACATAATCT TTACGGTAAC ATGGGTTTCAG GAACAATCGT  | 3480 |
| 35 | TATTAAAATG AAAAACGGTG GGAAATATAC GTTTGAATTA CACAAAAAAC TGCAAGAGCA   | 3540 |
|    | TCGTATGGCA GACGTCATAG ATGGCACTAA TATTGATAAC ATTGAAGTGA ATATAAATA    | 3600 |
|    | ATCATGACAT TCTCTAAATA GAAGCTGTCA TCGGAAAAAC AAGAAGTTAA GTGACAACGG   | 3660 |
| 40 | TTTACATGTT GCTTAGCTTC TTTTATTATG CGTAATGATG TAAAAAGACG AATATTCAAT   | 3720 |
|    | TGTTTGTAAGT AGTGGCATTTC CTATGTCTTA AAAGTGACGA AACTTCAAAT GTGCCAAGTG | 3780 |
|    | TTGAATCACA TCAAAATCAT TTTTATTTAA CGAACATTAT GGATTTCTTA ATTTACTTAA   | 3840 |
| 45 | CGATGATTCA AATATAGTTA AACAAGGTTT AATGTGAATG GAGCAATACG CCATCTATAA   | 3900 |
|    | TAAAGCTGTA TGATTCAATG AATGTAATCG AACAAATCTA ATAATTACGA ATGGAGCATA   | 3960 |
| 50 | CAACTATGAA AATAACAACG ATTGCTAAAA CAAGTTTAGC ACTAGGCCTT TTAACAACAG   | 4020 |
|    | GTGTAATCAC AACGACAACG CAAGCAGCAA ACGCGACAAC ACTATCTTCC ACTAAAGTGG   | 4080 |

|    |   |      |
|----|---|------|
|    | CGCCTTCAAC TAAAGTGACA ACACCTCCAT CAACAAACAC GCCACAACCA ATGCAATCTA   | 4260 |
|    | CTAAATCAGA CACACCACAA TCGCCAACCA CAAAACAAGT ACCAACAGAA ATAAATCCTA   | 4320 |
| 5  | AATTTAAAGA TTTAAGAGCG TATTATACGA AACCAAGTTT AGAATTTAAA AATGAGATTG   | 4380 |
|    | GTATTATTTT AAAAAAATGG ACGACAATAA GATTTATGAA TGTTGTCCCA GATTATTTCA   | 4440 |
|    | TATATAAAAT TGCTTTAGTT GGTAAAGATG ATAAAAATA TGGTGAAGGA GTACATAGGA    | 4500 |
| 10 | ATGTCGATGT ATTTGTCGTT TTAGAAGAAA ATAATTACAA TCTGGAAAAA TATTCTGTCTG  | 4560 |
|    | GTGGTATCAC AAAGAGTAAT AGTAAAAAAG TTGATCACAA AGCAGGAGTA AGAATTACTA   | 4620 |
| 15 | AGGAAGATAA TAAAGGTACA ATCTCTCATG ATGTTTCAGA ATTCAAGATT ACTAAAGAAC   | 4680 |
|    | AGATTTCCCTT GAAAGAACTT GATTTTAAAT TGAGAAAACA ACTTATTGAA AAAAATAATC  | 4740 |
|    | TGTACGGTAA CGTTGGTTCA GGTAAAAATTG TTATTAAAAAT GAAAAACGGT GGAAAGTACA | 4800 |
| 20 | CGTTTGAATT GCACAAAAAA TTACAAGAAA ATCGCATGGC AGATGTCATA GATGGCACTA   | 4860 |
|    | ATATTGATAA CATTGAAGTG AATATAAAAT AATCATGACA TTCTCTAAAT AGAAGCTGTC   | 4920 |
|    | ATCGGAAAAA CAAGAAGTTA AGTGACAACG GCCTACATGT TGCTTAGCTT CTTTTGTTAT   | 4980 |
| 25 | GTTCGATGAT TTGAGAACCC GAATTTTCGA TGGGTCCAAA TATGACGTGG AAGAGACCTG   | 5040 |
|    | AATTTATCTG TAAATCCCTA TCTATCGGGT GTGAAGCACA ACGGGATCAG TTTTATTTAA   | 5100 |
| 30 | CGAACATTAT AGATTCCTTA ATTTACTTAA TAATGATTCA ATGATTATTA AACATGGTTT   | 5160 |
|    | AATGTGAAAG GTCAAATACG CTAATAATAA TAAAGCTGTA TGATTCAATA GACGTAAGCG   | 5220 |
|    | AACAAATCTA ATAATTACGA ATGGAGCATA CAACTATGAA AATGACAGCA ATTGCGAAAG   | 5280 |

## (2) INFORMATION FOR SEQ ID NO: 545:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 886 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 545:

|    |  |     |
|----|--|-----|
| 45 | AGTAAAAATTG CCGGTATGAT GGACACAAAC GGTGACCTTG GTCAAGGTGA ATTAGCGATT | 60  |
|    | AATCCACCTA AATCAGATTT gAACGAATTA CCTTGGGCTA CACGTAAAAA TAAACAGCCA  | 120 |
| 50 | GCTTCATCCG AAAAAGGTTT AAGTGGTCAT CATGGTAATG CAGCAATGCC TCAAACCAm   | 180 |
|    | TTAGATTATC AAATATCTAT TGATAAGGTC GTTGAACAGG CGCAAAAAGC TGGTATTAAA  | 240 |
| 55 | AAGCCGTTTT CAATCGTATA TCCAAGTGAT AAAAATGGTA CCTTTATTGT ATCTAATACT  | 300 |

GATCAATATA GCGGTAAAAA GCTAGGTACG ATTAAATATG ATGACTACGG TATTATTGCT 420  
 AAATGGTTTA CATGGGGCAT TCCGCTTCAC GAAGGTCATT TATTCGGCAT TTAAATAAAA 480  
 5 ATCATTAAATT TATTTGTATG TATCGCTTTA TTAGTAGCCA TTGGCATGGG GTTTGTCTCT 540  
 TGGATAAAGC GTACAAAAAA TACTGCAGTA AAAGTACCAC ATCGCGTAAA AAAACCAGCA 600  
 TCTATATCAC TCATAATATG TTTAATTGTA TTAGGATTAT TAATGCCATT ATTTGGATTA 660  
 10 TCACTTATCC TTGTATTTAT AATTGAATTA ATATTATATA TTAAAGATCG TCGTGCTAAA 720  
 CAATAATGCA CTTAAAGTTT TGAAGTACG AAATTTACAA AATGgATTCT CGTCTCTCTA 780  
 ATTACTTAAA ACGGGGtTtCy AaTAATAAAT CgTACTGaTG GgAAAGTTTT TACTTTTTAT 840  
 15 CTGtCCGAtT TTTTnGAAwT TGAAGATAAA AAAGCATCTA AAACGC 886

(2) INFORMATION FOR SEQ ID NO: 546:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4336 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 546:

GGCATTGTG TCCTTATATA AGGAACTGTG tTAAATACAT TACTGTTGTT AAGTTGTTTT 60  
 30 TGTAATTCAA AGAGCAGAAC AGAGTAACAT CATCAGTTGT AGTAAACGAT AATCCGGTAA 120  
 AACAACTAAA TGAAATAATG AAAGTCATTT AACCTGAACA TTAAATATA TTTGTTTTTC 180  
 35 ATTAAGAATA ATTCAAGTAT ATTTAAATCG AGGTTAATTA TCGTATGAAA CGATGCACGT 240  
 TATAATAAAA ATGTATGATT CAAATTACGT AATGAAAACA ATCCAATATA TTAAGATTGG 300  
 AGCAAATAAA TATGAAATTT ACAGCATTAG CAAAAGCGAC ATTAGCTTTA GGAATTTTAA 360  
 40 CAACAGGAAC TTAAACAACA GAAGTTCATT CAGGTCATGC AAAACAAAAT CAAAAGTCAG 420  
 TAAATAAACA TGACAAGGAA GCATTATACC GATACTACAC TGGAAAGACT ATGGAAATGA 480  
 AAAATATTAG TGCTTTGAAA CATGGTAAAA ACAACTTACG TTTTAAGTTT AGAGGTATTA 540  
 45 AGATTCAAGT TTTACTGCCT GGAAATGATA AAAGTAAATT TCAACAGCGT AGTTATGAGG 600  
 GGTTAGATGT TTTCTTTGTT CAAGAAAAAA GAGATAAGCA CGATATATTT TATACTGTTG 660  
 50 GTGGTGTAAT ACAGAATAAT AAAACATCTG GAGTTGTCAG TGCACCAATA TTAAATATTT 720  
 CAAAAGAAAA GGGTGAAGAT GCTTTTGTGA AAGGTTACCC TTATTACATT AAAAAAGAAA 780  
 AATTACACTT AATAGAACTG CATTATAACTT TGAGAAGGCA TCTTAATCTGAA AATTAATCTT

|    |            |            |              |            |            |            |      |
|----|------------|------------|--------------|------------|------------|------------|------|
|    | ATAACCTTGA | TTTAAGATCT | AAATTAAAAAT  | TTAAATATAT | GGGGGAAGTC | ATAGAAAGCA | 960  |
|    | AACAAATTAA | AGATATTGAA | GTAACTTAA    | AGTAAATCAT | TACGAATAAT | TAAAAGTAAT | 1020 |
| 5  | TGAAGCGGCT | TAACGGTGAA | ATGTAAATTG   | GTGCGCATAG | CTTATACAAA | AAGGATGCAT | 1080 |
|    | CAATCGATAT | CGTCGTTAAG | CCGTTTTGGT   | TTGTGTGTCA | TGAATCCTAT | CCCAATCTCC | 1140 |
| 10 | ATAAAGGTAA | AATTTCCACC | ACCAACATCA   | AAATTCTCCA | CATCGCAACA | TAACCAAATG | 1200 |
|    | TTATAATAAA | TCTATTACAC | AAAGAGATAA   | ATTACTTATT | CAAAGGCGGA | GGAATCACAT | 1260 |
|    | GTCTATTACT | GAAAAACAAC | GTCAGCAACA   | AGCTGAATTA | CATAAAAAAT | TATGGTCGAT | 1320 |
| 15 | TGCGAATGAT | TTAAGAGGGA | ATATGGATGC   | GAGTGAATTC | CGTAATTACA | TTTTAGGCTT | 1380 |
|    | GATTTTCTAT | CGCTTCTTAT | CTGAAAAAGC   | GGAACAAGAA | TATGCAGATG | CCTTGTCAGG | 1440 |
|    | TGAAGACATC | ACGTATCAAG | AAGCATGGGC   | AGACGAAGAA | TACCGTGAAG | ACTTAAAAGC | 1500 |
| 20 | AGAATTAATT | GACCAAGTCG | GTTACTTCAT   | TGAGCCAGAA | GATTTATTCA | GTGCGATGAT | 1560 |
|    | TCGTGAAATT | GAAACGCAAG | ATTTGATAT    | CGAACACCTG | GCGACGGCAA | TTCGTAAAGT | 1620 |
|    | TGAAACATCA | ACATTAGGTG | AAGAAAGTGA   | AAATGACTTT | ATCGGTCTGT | TCAGCGATAT | 1680 |
| 25 | GGATTTGAGT | TCAACGCGAC | TAGGTAACAA   | TGTCAAAGAA | CGTACTGCTT | TAATCTCTAA | 1740 |
|    | AGTCATGGTT | AATCTTGACG | ACTTACCATT   | CGTTCACAGT | GACATGGAAA | TTGATATGTT | 1800 |
| 30 | AGGTGATGCA | TATGAATTCC | TAATTGGGCG   | CTTTGCGGCG | ACAgCGGGTA | AAAAAGCAGG | 1860 |
|    | CGAGTTCTAT | ACACCACAAC | AAGTATCTAA   | GATACTGGCG | AAGATTGTCA | CAGACGGTAA | 1920 |
|    | AGATAAATTA | CGTCACGTGT | ATGACCCAAC   | ATGTGGTTCA | GGTTCACTGT | TGTTACGTGT | 1980 |
| 35 | TGGTAAAGAA | ACACAAGTGT | ATCGTTATTT   | CGGTCAAGAA | CGTAACAATA | CTACATACAA | 2040 |
|    | CTTAGCACGC | ATGAATATGT | TATTACATGA   | TGTGCGTTAT | GAGAACTTCG | ATATCCGTAA | 2100 |
|    | TGATGACACA | TTGGAAAACC | CAGCCTTTTT   | AGGCAATACA | TTTGATGCGG | TTATTGCGAA | 2160 |
| 40 | CCCACCGTAT | AGTGCGAAAT | GGACTIONCAGA | TTCAAAGTTT | GAAAATGACG | AACGATTGAG | 2220 |
|    | TGGTTACGGC | AAACTTGCGC | CTAAGTCTAA   | AGCAGACTTT | GCCTTTATTG | AACACATGGT | 2280 |
| 45 | ACATTACCTA | GACGATGAAG | GTACCATGGC   | CGTTGTACTC | CCACATGGTG | TATTATTCCG | 2340 |
|    | AGGTGCTGCA | GAAGGTGTCA | TTGTCGTGTA   | TTTAATTGAA | GAAAAGAAGT | ACTTAGAAGC | 2400 |
|    | TGTGATTGGT | TTGCCAGCGA | ATATTTTCTA   | TGGGACAAGT | ATTCCAACAT | GTATTTTAGT | 2460 |
| 50 | ATTTAAAAAA | TGTCGCCAAC | AAGACGACAA   | CGTACTATTT | ATCGATGCAT | CCAATGATTT | 2520 |
|    | TGAAAAAGGA | AAAAATCAAA | ATCATTTAAG   | CGATGCCCAA | GTCGAACGTA | TTATAGACAC | 2580 |
| 55 | ATATAAGCGT | AAGGAAACAA | TTGATAAATA   | TAGCTACAGC | GCGACACTAC | AAGAGATTGC | 2640 |

|    |  |      |
|----|--|------|
|    | GATTGATTTA GATCAAGTCC AACAAAGATTT GAAAAATATC GATAAAGAAA TCGCAGAAAT | 2760 |
|    | TGAGCAAGAA ATCAATGCAT ACCTGAAAGA ACTTGGGGTG TTGAAAGATG AGTAATACAC  | 2820 |
| 5  | AAAAGAAAAA TGTGCCAGAA TTGAGGTTCC CAGGGTTTGA AGGCCAATGG GAAGAGAAGC  | 2880 |
|    | AGTTAGGGGA TCTTACAGAT AGAGTAATTA GGAAAAATAA AAACCTAGAA TCGAAAAAGC  | 2940 |
| 10 | CTTTAACAAT ATCCGGACAG TTAGGTTTAA TTGATCAAAC AGAATATTTT AGTAAATCAG  | 3000 |
|    | TTTCGTGCGAA AAATCTAGAA AATTATACAC TAATAAAGAA TGGAGAATTC GCGTATAACA | 3060 |
|    | AAAGTTATTC TAATGGATAC CCATTAGGGG CTATTAAAAG ATTAAGTAGA TATGATAGTG  | 3120 |
| 15 | GTGTATTGTC CTCTTTGTAT ATTTGTTTTT CTATTAAAAG TGAAATGTCT AAAGACTTCA  | 3180 |
|    | TGGAAGCATA TTTTGATTCTG ACACACTGGT ATAGAGAAGT TTCTGGAATT GCAGTTGAGG | 3240 |
|    | GTGCAAGAAA TCACGGATTA TTAAATGTTT CTGTGAATGA TTTTTTTACT ATTCTAATTA  | 3300 |
| 20 | AATATCCAAG TTTAGAAGAA CAGCAAAAAA TAGGCAAGTT CTTGAGCAAA CTCGACCGAC  | 3360 |
|    | AAATTGAATT AGAAGAACAA AAGCTTGAAT TACTTCAACA ACAGAAAAAA GGCTATATGC  | 3420 |
|    | AGAAAATTTT CTCACAGGAA CTGCGATTCA AAGATGAGAA TGGTGAAGAT TATCCAGATT  | 3480 |
| 25 | GGGAAAATAG CAAAATAGAA AAATATTTAA AAGAGAGAAA CGAACGTTCT GACAAAGGGC  | 3540 |
|    | AAATGCTTTC AGTAACTATA AATAGTGGCA TTATAAAATT TAGTGAATTG GATAGAAAAG  | 3600 |
| 30 | ATAATTCAAG TAAAGATAAA AGTAATTATA AAGTAGTTAG GAAAAATGAT ATTGCATATA  | 3660 |
|    | ATTCTATGAG AATGTGGCAA GGGGCTAGTG GTAAATCAAA TTATAATGGG ATTGTTAGCC  | 3720 |
|    | CTGCATATAC TGTGCTTTAT CCAACACAAA ATACTAGCTC ATTATTTATT GGATATAAGT  | 3780 |
| 35 | TTAAACACA TAGAATGATT CATAAATTTA AAATTAATTC ACAAGGATTA ACATCAGATA   | 3840 |
|    | CATGGAACTT AAAATATAAA CAATTAAAA ATATAAATAT AGATATACCT GTATTGGAGG   | 3900 |
|    | AACAAGAAAA GATAGGTGAT TTCTTTAAAA AAATGGATAT ATTGATAAGT AAACAGAAAA  | 3960 |
| 40 | TGAAAATTGA AATATTAGAA AAAGAGAAAC AATCCTTTTT ACAAAAAATG TTCTTATAAC  | 4020 |
|    | TTTGATAAAT ACATAGATTG CATAAGAATA AAATTTGTAT AATTTAACAT AAAAGTTGTA  | 4080 |
|    | AAAGTAAAGT GAATTAAAAA CGAACATTAA ATTTAGGCAC TGTGAAAGCG CAGTGTCTTT  | 4140 |
| 45 | TTTGTGTCGA AATTGTGTAC AGAATAAGTA GTTAAATAAA GATTAAGTTG AGATAAAGTG  | 4200 |
|    | TTATTCGTAA ATAAAAGAGA GTAGATCGAT AGGAATTGAA TGATATTAGT TAACTATTTA  | 4260 |
| 50 | TTAAATTAAT TAATAATGAT TAATTTTTAG TTAAAGTAAG TTTAATGTGA AGCACGACCA  | 4320 |
|    | TTGCTCATTA TAATGA  | 4336 |

(A) LENGTH: 487 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

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## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 547:

10 TAAGCTATCT GAGATAATTG CTGATAACAT TAAACCGGCA ATTTTCAGGTT TAATTTCAAA 60  
 GCCACGTTCT CTAAACATTT TGTATAAAAT TGTAGCTGTA CAACCAACTG GTTCAGCACG 120  
 ATAACATAAA GGACCAGCAG TTTCGAAATT TGCAATTCTG TGATGATCAA TTACATGCTT 180  
 15 AATTGTAGCA GAGGCAATCG TATCAGAACT TTGTTGGaAT TCGTTATGAT CAACTAAGAT 240  
 AACATCTTGA CCATCTAAAT CATCTGTTAA TAATTCCGGA GCAGGTACAT TAAATGTATC 300  
 TAACGCGAAT TGAGTTTCTG CACTCACATC ACCTAAACGG TATGCTTTGG CTCCTGAATT 360  
 20 ACCTCGAAGT TGTTCaAATT CTGCCaTAAT AATCGCAGAT GAAATTGCAT CAGTGkCTGG 420  
 aTTCTTATGT CCGAAAATAT ATGTTTTAGC CAntGTCAAA TATCTCCCTT GTAAATTGTA 480  
 25 TTCTTTA 487

## (2) INFORMATION FOR SEQ ID NO: 548:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 871 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

30

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 548:

TTGGTGGTGC AGCAGTTATA GCAATTGTTT TAGCATTTCAT TGGTAAGTTC ACTGCATTAA 60  
 TTTCTTCTAT ACCTACmCCA GTTATGGGAG GAGTATCTAT ATTACTTTTC GGTATTATTG 120  
 40 CAGCAAGTGG CTTAAGAATG TTAGTTGAAA GCAAAGTAGA TTTTGCGAAC AATCGAAATT 180  
 TAGTTATAGC TTCTGTAATT TTAGTTGTAG GTATCGGTAA TTTAGTATTT AACTTAAAAG 240  
 45 AAATTGGTAT CAACCTTCAA ATTGAGGGGA TGGCATTAGC TGCACTTTCA GGAATTATTT 300  
 TGAACCTTAAT CTTACCTAAA GAGAAAAAAC AAAACAATTA AGATTTACAA ATTAAGGAGG 360  
 GCGCTTTTAT GAATCATTTA TTATCAATGG AACATTTATC TACAGATCAA ATATACAAAC 420  
 50 TTATCCAAAA GGCAAGTCAA TTAAATCTG GTGAACGTCA ACTACCAAAC TTTGAAGGGA 480  
 AaTATGTCGC AAATTTATTC TTTGAAAATT CTA CTGGrAC AAAATGTAGT TTTGAAATGG 540  
 CAGAACTTAA GCTAGGGTTA AAAACGATTA GCTTTGAAAC ATCAACATCA TCTGTTTCAA 600

55

TCATTAGACA TCCGTTTAAAT AACTACTATG AAAAAATTAGC GAATATTAAC ATCCCAATTG 720  
 CGAATGCTGG TGATGGTAGT GGACAACATC CAACACAAAG TTTACTTGAT TTAATGACGA 780  
 5 TATATGAAGA ATATGGATAT TTTGAAGGCT TGAATGTATT GATTTGTGGA GAcATTaAAA 840  
 ATTCACGTGT CGCACTAGTA ATTACCAaAG T 871

(2) INFORMATION FOR SEQ ID NO: 549:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 400 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 549:

20 TCAATCTAAT ATATACTTCA TGA CT TCCCG CCAAAGGCGC AATCGTAGGA TTAGTCTGTT 60  
 TATCGATAAG ATCTATTAAT ATTGTTTCTA CTTTAGATTC ACCTATTCCC GCAAATCTTA 120  
 ATAGTTCAGA ATGTATAATT CGATTATGGT TTATAAAATG TGACAACAAT TCATTTTTCa 180  
 25 CCATTGGTTG CATTTCCTTC GGTGGACCTG GTAATAAAAT AATTTGTTTG TTTTCAAaAT 240  
 TCACCATCAT TCCTGGAGCC ATGCCATGAT GATTTGT TAA TACAGTTGAA CCTTCAATTA 300  
 CTAAAGCCTG TTGTcTATTA TTAGGTGTCA TTTCTtGTCC TTGTTCTCA aAAwAGCTTT 360  
 30 CAATATATTG AAAGAAGGCT CATCAATAAC TAAATCTnTA 400

(2) INFORMATION FOR SEQ ID NO: 550:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1523 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 550:

ATACCTCCAG CTAGAATACC AGCGTATTTT ATAAAATACT TCCTCCATTC AACTATATCT 60  
 45 ATATTTAATT ATTTAAATTT CGTIGCATT TCCAATTGAA AACTCATTTT AAAATCAAAA 120  
 CTCTAAATGT CTGTGTATTA CT TAAAATTA TACATATTTT GCTTATATTT TAGCATATTT 180  
 TGT TTAACC TATATTACAT TATATCAGAC GTTTTCATAC ACAAATAATA ACATACAAGC 240  
 50 AAACATTTTG TTTATTATTT ATATCACTTA ACTAATTAAT TTATAATTTT TTATTGTTTT 300  
 TAAGTTATCA CTTAAAAATC GTTGGCaAA TTCGTTGTGA CGCTTGTCaA TCTTCTAATC 360

TTTGTTTTAA TGCATCAATG AGTGCTGTTT GATTTTCAAC AATTGGACCT GGCAACTCTT 480  
 TTTTATAATC CATGTAAAAA CCTCTAAGCT CATCGCCATA TTTATCTAAG TCATATGCAT 540  
 5 AGAAAAATTG CGGACGCTTT AATACACCGA AGTCGAACAT GACAGATGAG TAGTCGGTAA 600  
 CTAACGCATC GCTGATTAAG TATAAATCCG AAATGTCTTC ATAAtCTGAA ACGTCTTTCA 660  
 10 CAAAATCATC ATGTTTCATCA ATACGTGTCA CAACTAAATA ATGCATGCGT AAKAAAAATAA 720  
 CATArTCATC ATCCAGCGCT TGACGCAAAG CTTCTATATC AAAGTTAACA TTAAATTGAT 780  
 ATGAACCTTC TCGAATCGCT TCATCGTCAC GCCAAGTTGG CGCGTACATA ATCACTTTTTT 840  
 15 TATCTAATGG AATATTTAAT CTTGTCTTAA TACCATTAAT ATATTCAGTA TCATTGCGTT 900  
 TATGTGATAA TTTATCATTT CTTGGATAAC CTGTTTCCAA AATCTTATCT CGACTAACAT 960  
 GAAATGCATT TTGAAATATC GATGTCGAAT ATGGATTAGG TGACACTAGA TAATCCCACC 1020  
 20 GTTGGCTTTC TTTTTTAAAG CCATCTTGGT AATTTTGAGT ATTTGTTCCCT AGCATTTTAA 1080  
 CGTTACTAAT ATCCAAACCA ATCTTTTTTA ATGGCGTGCC ATGCCATGTT TGTAAGTACG 1140  
 TCGTTCGCGG TGATTTATAT AACCAATCTG GTGTACGTGT GTTAATCATC CwCGCTTTTCG 1200  
 25 CTCTTGGCAT CGCTAAAAAC CATTTTCATTG AAAACTTTGT AACATATGGT ACATTGTGCT 1260  
 GTTGGAATAT GTGTTTCATAT CCTTTTTTCA CACCCCATAT TAATTGGGCA TCGCTATGTT 1320  
 CAGTTAAGTA TTCATATAAT GCTTTGGGGT TGTCGCTGTA TTGTTTACCA TGAAAGCTTT 1380  
 30 CAAAATAAAT TAGATTCTTG TTTGGCAATT TTGATAGTAA TTTAAAAGTC GTATATATAC 1440  
 TATGTTCTAT CAATTTTTTA ATTGTATTTT TAATCATGTC GTACCTCCGA CGTGTTTTTTG 1500  
 35 TAATTATATT AATATGTATG AGC 1523

## (2) INFORMATION FOR SEQ ID NO: 551:

## (i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 4923 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 551:

CAGTAAGAGA TTTTCTTAAT TGAAAATAAT CTTACTGCTT TTTTAAATTT AATTTGAGA 60  
 50 TTCAATATTA GTTTATCTCA TTGTGGCATT AATTGATAAA ATTGTTTTAA TGTTATAAAT 120  
 CAAAGTctTC TTCAACAATT TCAATGTCTG CATCAGATCT ATGATATGTG AAAAAGCTAA 180  
 TTCTTATGCG GTCTAAATGC TCTAAATGGT GTCGATACTC TTCGATGGCT GCAACAATTT 240

|    |  |      |
|----|--|------|
|    | ATGTGGACAA TAAATCTTTT TTCTGCGGAT TATCTAACTC ATAATCAACA TGTGTCACAT  | 360  |
|    | TATAACGTGC TTTTITAGAA AGGCTAGCTA AAATTTGCTC GTGAAAAGCA GTTAATGAAT  | 420  |
| 5  | CTAAATCTAA TTTGATTTGT AATAGGAAAT TGTATTAAAG TAAATATAAG TCGTTTTGTAT | 480  |
|    | AACGCGACAA TTTGTTTAAT ACTTCATAAG CTTGTCTAGT CGTCTGAACT ACTTCTCTGA  | 540  |
|    | AAAGTATTTT CTTTCTATTG TGTGGTGAA TATGTTTTTT TGTAATAGGA CGTTCTTCGC   | 600  |
| 10 | TATAGTAATC ATAAATTTTC TCTAACTTTT CGACACGTTG TTTTAAATTA TGACTATCTT  | 660  |
|    | GTTTAATATT ATTAACTCC GTCGTATCAT TTAATACTAA TTTAAACCAC ATAAAAATAT   | 720  |
|    | CTGAGGATAT ATTTAATGAA TTATAGTAAA TTTTGTTC AAATTTAGGT GGTAGAAACA    | 780  |
| 15 | CAAAGTTAAC TAGAGATGAA CTTATGACAC CAATCATTAC AAGTACAAAC CTGTAAAAGG  | 840  |
|    | CGGTAATATA GAAAGAACCG GTATGTTGTC CCATAATGAT TAATGCTGTT ACACTCGCCA  | 900  |
| 20 | AAGTAGCAAC ATGTGCTAAA TTAAATTTAA ATAAATAGC AATAAGTACT ATGACGGTAA   | 960  |
|    | CACCCATAAT GATAAAATTA TCACTAAAAA TTGTTACCAT TGTAACAGAT AGTATGGCAC  | 1020 |
|    | CTATAATGTT ACCCAATGCT TGATCAGAAA CTGTTTTTAA TGAACGATAA ATACTAGGTT  | 1080 |
| 25 | GCATTGCACa ACAGCACTGA CACCAGCTAA GGCTTTCAGA CCAACATCAT CCGGTAGTAA  | 1140 |
|    | AGAAGCGATA GACATAGCTA AAATAATGGC TATACCAGTT TTAAAAATCC GAGCTCCTAG  | 1200 |
|    | TCTCAAAAAT AATGACGCCC CTTTTAAGTT TATTGAATAT CTAATATTCTG TATTCATTAC | 1260 |
| 30 | TGTTATACAC TTAGTAGTTA CAAAATTCAA GCTTATTTAT AGTTGTTAAA ATAAATCATA  | 1320 |
|    | CATAATACTG ATAGCGATGT AAACTTTAG TCAGAGATTA AAATAGTATA AATTTGTAAA   | 1380 |
| 35 | ATAAAAACTC ACATAGTGAC ATATCAAGTT AAACGTTAAT AGTTAACGAT ATAAAAATGAA | 1440 |
|    | TCTACTATGT GAGCATTGTC TTTATTTTAA TTCAATTTAA AATATACTTC CTTAAAAGTT  | 1500 |
|    | ATTTCAATTTG ACTAAAAGCA TAGTCTGCAG CTTTAAAGT TTGTTTAATA TCTTCTCTG   | 1560 |
| 40 | TATGTTTCAGT TGTTAAGAAC CAAGCTTCAA ACTTAGAAGG TGCTAAATTG ATACCTTGAT | 1620 |
|    | TTAACATTAA TTTGAAAAAT TTACCGAACG CTCGCCGTC AGAATGTTCA ACTTGATCAT   | 1680 |
|    | AATGTGTGAC TTTTTCATCT GTAAAGTACA ATGTTAAAGA TCCATAAATA CGATTAATTG  | 1740 |
| 45 | TAGCTGTGAT ATTATGTTTT TCGATTAAAT TAAGTAAACC TTCTTCTAGT TGTGGCCTA   | 1800 |
|    | AGCTGTCTAA TTTTTCATAA ACACCGTCTT GTTCTAGTAC TTCGAGTAAT GCAATACCTG  | 1860 |
|    | CTTTCATAGA TAACGGGTTA CCAGCCATTG TACCAGCTTG ATATGCAGGT CCTAGAGGTG  | 1920 |
| 50 | CTACTTGTTT CATAATATCT TGACGTCCAC CATAGCCTCC AATTGGTAAA CCACCGCCAA  | 1980 |
|    | CAATTTTACC AAATGCAGTT AAATCAGGGA TAACACCTAA TAAATCTTGA GCGGCACCGT  | 2040 |

|    |  |      |
|----|--|------|
|    | AAATTTTCATT AACCTCTTCT AAAAATCCAG GTTGAGGCAT TACCATTCCA AAGTTACCAA | 2160 |
|    | CAATTGGTTC TACTAATACT GCGGCAATTT CATCACCCCA AAATTCAATT GCTTCTTTAT  | 2220 |
| 5  | AGGCGTTAAT ATCATTGAAA GGTACAGTAA TGACTTCACG TCGACGCTT TCTGGAACAC   | 2280 |
|    | CAGCTGAGTC TGGAGAACCG AGCTGAGATG GGCCGCTACC TGCTGCAACC AATACTAAAT  | 2340 |
| 10 | CAGAATGGCC ATGATAAGAT CCAGCAAATT TTATAATTTT ATTTCTTTTA GTATATGCAC  | 2400 |
|    | GTGCAACACG AATTGTTGTC ATGACTGCTT CTGTTCCAGA ATTTACAAAG CGAATTTTCT  | 2460 |
|    | CAAGAGATGG AATTGCATCA CGTAATTTTT TGCTGAATTC AATTTCTAAT TCAGTCGGTG  | 2520 |
| 15 | TACCAAATAA AACACCTTTA GCAGCTTGTT CTTGAATTGC TTTAGTAATA TGAGGATGTG  | 2580 |
|    | CATGCCCCGT AATAATTGGA CCGTATGCTT GAAGGTAATC AATAAATTTA TTGCCATCGA  | 2640 |
|    | CATCATATAA ATATGCACCG TGTCCTTCTT TCATAACAAC AGGTGCACCG CCTCCTACAG  | 2700 |
| 20 | CTTTATAAGA ACGAGAAGGG GAATTGACAC CGCCTAGAAT ATATTGTTTT GAAAGTTGTT  | 2760 |
|    | GTAAACGTTT ACTTTCACTA AAATTCATTT ATATCAACCT CTTTAAATTT AATATTTTCA  | 2820 |
|    | TCTAATATCG TATCATAAAA TTATTATAAT GAAGAAAAAG GTGATTATAT GTTGCAAAAA  | 2880 |
| 25 | GGAGAACAAT TTCCAATATT TAAATTAGAA AATCAAGACG GAACTGTCAT TACAAATGAT  | 2940 |
|    | ACATTAATAAG GTAAAAAGGC GATTATATAT TTTTATCCTA GAGATAATAC ACCTACTTGT | 3000 |
| 30 | ACCACAGAAG CTTGTGACTT TAGAGACAAT TTAGAAATGT TCAATGATTT AGATGTTGCA  | 3060 |
|    | GTATATGGTA TAAGCGGTGA TTCAAAGAAA AAACACCAAA ATTTTATTGA GAAACACGGA  | 3120 |
|    | TTGAATTTTCG ATTTATTAGT AGATGAAGAT TTTAAATTAG CTAAAGAAAT GGCATATATC | 3180 |
| 35 | AGTTAAAAAA ATCATTTGGC AAAGAAAGTA TGGGCATTGT AAGAACGACT TTTATAATAG  | 3240 |
|    | ATGAACAAGG TAAAGTATTA GATGTTATCG AGAAGGTTAA GGTAAAAACA CAAATAGAAG  | 3300 |
|    | AACTTAAAAA CATTTTGGGG TGACATATAT GAAAGTTGTT GGGTTAAATC GTATGCGTGA  | 3360 |
| 40 | AGTTGAAACT GAATTACAAC AACGCTTTTC AGATTTAGAT TTTAAATTTT ATAAAAAGC   | 3420 |
|    | ATCAGAAATA CCTGAGAGCG ACTTGGCTGA TTTAGATATA TTAGTTGGTT ATGATGGCGG  | 3480 |
|    | TATCAATGAG GCATTTTTAC GACGTTGCCC GAATTTAAAA TGGATTGCAT GGTTTGCAAC  | 3540 |
| 45 | GGGTGTAAAT ACATTGCCGT TAGATTATAT TGCAGATCAC GGCATACTTT TAACTAATGG  | 3600 |
|    | AAAAGGTGTT CAAGCTAAAC AATTATCTGA ATACATTTTA GCTTTCATTT TAGATGATTA  | 3660 |
| 50 | TAAAAAGATG AACTATCAT ATGATAACCA ACGACAACAT ATATATGATT CGAAAAATAAC  | 3720 |
|    | TGGTAAACGC CTATCAGGAC AAACAGTTTT ATTTTAGGT ACAGGTGCAA TTGCTACTAG   | 3780 |
|    | AACTGCGAAG TTAGCAAAGG CTTTAAATAT GAATTTAATT GGTCTGAGCA AGTCAGGTCA  | 3840 |

TGCTGACATT ATTATAAATG CTTTACCAGA AACGCAAGAA ACGATTCaTT TaCTAAAGAA 3960  
 AAAACATTTT GAATTAATGA AAGATGAAGC ACTTTTTATA AATATAGGAC GAGGTAGCAT 4020  
 5 AGTTAAAGAA GCGCTCTTAA TAGAAGTATT AAAAAGTAAA GTTATTGCAC ATGCATATTT 4080  
 AGATGTGTTT GAAAATGAAC CTTTGAAACC TAATCATGAA TTATATGAAT TGGATAATGT 4140  
 AACTATAACA GCGCATATAA CTGGTAATGA TTATGAAGCA AAGTATGACT TATTAGATAT 4200  
 10 TTTTAAAAAC AATCTAGTTA ATTTTCTCAA TAAGAATGGT CTAATTGAGA ATGAAGTTGa 4260  
 TGCTAAAAAA GGCTATTAAA TGArATCATC ATGTAAATAT TGACACGCGC GCAATACTAC 4320  
 15 AGTTATATTT aTAGTAAGTt AATaATgATT ATATAAGAAa GATGGTgATA TAGATGAGTG 4380  
 TTGAAATAGA ATCAATTGAA CATGAAGTAG AAGAATCAAT TGCATCATTG CGACAAGcAG 4440  
 GCGTAAGAAT TACACCTCAA AGACAAGCAA TATTACGTTa TTTaATTTCT TCACATACTs 4500  
 20 ATCCAACAsC TGaTGaAATT TATCAAGCAC TTTCACCTGa TTTTCCAAAT ATAAGTGTG 4560  
 CGACAATATA TAATAACTTA AGAGTGTTTA AAGATATTGG AATTGTAAAA GAATTAACAT 4620  
 ATGGAGACTC ATCAAGTCGA TTCGACTTTa ATACACATAA TCATTATCAT ATTATATGTG 4680  
 25 AACAAATGTGG TAAGATTGTT GATTTTCAAT ATCCACAGTT AAATGAAATT GAAAGATTAG 4740  
 CTCAGCATAT GACTGACTTT GACGTAACAC ATCATCGAAT GGAAATTTAT GGAGTTTGTA 4800  
 AAGAATGCCA AGATAAATAA TTTAACTTTG GTAGTATGAC AAATTAAAAA AGCGTTACTw 4860  
 30 ACTTCATATA AGTAAGCGTA ATATTTAAGA nGTTAAACGA CATGaAAGTt GTTTAACTTT 4920  
 TTT 4923

(2) INFORMATION FOR SEQ ID NO: 552:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 917 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 40 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 552:

45 TCCGGCTTTA AAAACTTTTC CCAATTCAG CTTGGGCCTT TGGCATTAAAT ATTAACCTCC 60  
 TGGTTCGGAT TAATTGGGAA CCTAACChTT TAGGCAATAA TTGGTTTAGG CAACTTCCAA 120  
 50 ATTGGTGGTT CAACCAACGT CTTTGGATAC CyTGcTCATT TAATTCTAAA ATGgTyrGAA 180  
 CGCATTTTGG TACCCAAAAt GgTGACGTTT GTTTGCACGG TCTAATAAAT TGTCTAAGTT 240  
 GCGAATGGCT TGCATTAAAT GAAcAGCATT TGGCTCTTCA GCAAGACCTT TGTCTACTTT 300

GCGATCCATT GTTTGTTCTGA AAAGAATAGC ACCCAAAATT TTATCTGGTG AGAATGAAGG 420  
 TGAAGTTACC ACACGTGTAC GCATATCGTG AACCAAGTTGG AACATTTCTG CTTCATTGCT 480  
 5 ATATTGATCT TCGTTTACAC CATATTCTTT AAGTGCTTTT GGTGTACTAC CACCACTTTG 540  
 GTCTAATGCG GCAATAAAGC CTTTTCATT TTTCATTTTT TCTAATTGCT CTTTATTCAT 600  
 ACTTTCCACT CCTTAACTTT TCAATACACC TCCAGTATGA TAAAAATGAG AACATTTCTC 660  
 10 AAGTCATAAA CCTTGAAAAG TGTATAAAAT GTGAAAAATA ATTGTCAGTT TAATTAAAAA 720  
 TATTATTTTA TTCTAGGTAT GACTAACGCC ATTAATGACA TAAAGAAAAT ATGTGTAATA 780  
 ATCCAACCGA TTAATTCTGT CACACTAAAT TGAAAAATTG GACGTTGCGC AATAAATACT 840  
 15 AAAAAGGGAT ACAATGCTAT AAATAAGAAA AATAAAGGGA TATAACATAG ATAGTAAAGC 900  
 CTTTTAGAAG TATGAAA 917

(2) INFORMATION FOR SEQ ID NO: 553:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 432 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 553:

ACTCCCATAT CCACTGGCAA GATTTATAAT TTGTAATTCT AAAGTATAAT AGCCTATATT 60  
 TTTCAAAATC TCTTTTTTTA TGATTAACAT CCCTCTAAGT GCACCTAAAG GTTTTTATGT 120  
 35 AATGTATTAA ATATTTCCAT TTATACATAT ACATCTTGTA TAAAAAGAAA GAACTCCATA 180  
 TATACTCAAA AGGTATACTG AAGCTCTATA TATTATATAA AATTATTATA CTATTTTGAA 240  
 AAACATAAGT AAATCACTAA ACATGATTTT TTTCACTTTT AGAAAACTTT TAATACTATA 300  
 40 AAAGCACCCA CTCAGTCACT AGTTTGGGCA GTTATTGTAT GCCTATTGaa CTCAATGCgT 360  
 ATATTACAAT ACCTTTTtCG CATATTCATA TAAGacTTTG CATCTTTAAG CTTAATTGCT 420  
 ATCTCTTTCT CT 432

(2) INFORMATION FOR SEQ ID NO: 554:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1374 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

|    |   |      |
|----|---|------|
|    | TTTTGCTTTA TGTAAATGG ATTATTaTTA GAATAAAAAA TCGGTGATGA GCTAAAAAAG    | 60   |
|    | TGTGTAGGAT GTTTTCckAA CCCAATTTTT ACATCCGAAG ATATCGAACA ATATCTTCCT   | 120  |
| 5  | ACTTCTACAT TATTA AAAATC ACTACCAAAT CCAATATAAC TGTATTCACC AATGTGAGAA | 180  |
|    | TTCCTGATTT TACACCATCT ATCTATATAG TTATTGCCAT CAAATTTTGA GTTTGTAATA   | 240  |
|    | TACGCCAAGC GATGAATCTT AACATTTCGAT TCTTTAGAGG ACTGGTTTTT CAGCAAACCA  | 300  |
| 10 | ATTATCTTTT CAATCGCTAT CCTCATCGTC ATTTCTCCA AGTATTTTCA TTGATAATAT    | 360  |
|    | CTTTATAGCT TTGAATAATT TTAACCTACCT TTGTCGAAAC GTTAGTGTCT TTATAATCAA  | 420  |
| 15 | TAGCATCAAT CATCGGTTTCG TTATTGTTTT GCATCTCTCT TGCTAGTTCA ACGGATTGGA  | 480  |
|    | TTAGATTGTT ATAGGTAATA CCACCTACAA TAACCGTACC TTTATCTAGT ACTTCCGGTC   | 540  |
|    | TTTCTGTGGA AGTTCGAATA AGGACACCAG GGAACCTCAA AATAGACGAC TCTTCTGACA   | 600  |
| 20 | ATGTTCCACT ATCTGATAGC ACAACAAATG CATCTTTTTG CAATGCATTA TAATCAAAGA   | 660  |
|    | AACCAAATGG CTTTAACTGT TTAACCTAATG GATCAAATTC AAATTTACTT TCTTCAATTT  | 720  |
|    | TCTTCCAAC TCTTGGATGC GTTGAATAAA TCACAGGCAT TTTATACTTT TTGGCAATAT    | 780  |
| 25 | CATTTATCGC ATTCATTAAT GATTTAAAAT TCTTTTCATT ATCGATATTC TCTTCTCTAT   | 840  |
|    | GCGCAGaTAC TAAAATGTAT TGTTGCGGTT CTAATCCTAG TTTATTTAAA ACGTCACTGT   | 900  |
|    | GATTAATTTT ATCTCGATGC GCTTCTATCA CTTCTGTCAT CGGTGATCCT GTyACAAAGA   | 960  |
| 30 | TATTCGCTTT ATTGAAGCCT TCATCTAATA AATAACGTCT GCTATGTTCC GTATAAGGTA   | 1020 |
|    | GATTCACATC ACTGACATGG TCAACAATTT TACGATTGAT TTCTTCAGGT ACATTCTGAT   | 1080 |
| 35 | CAAAGCATCT ATTACCCGCT TCCATGTGGA ACACAGGAAT CTTTAATCGT TTAGCAGATA   | 1140 |
|    | CTGCTGCTAA ACAACTATTT GTATCACCAA GAATTAAAAG TGCATCTGGT TGTTCGCGTA   | 1200 |
|    | ATAAAACATC ATATGTCTTC GCAATAATAT TCCCCAtCGT TTCTCCAnGt TACTTCCAAC   | 1260 |
| 40 | TGCCTCTAAG TAGTGGTCCG GTTGTCTTAA TTCCAAATCA TCAAAGAAAA TTTGATTCAA   | 1320 |
|    | TGTATAATCA TAATTTTGAC CAGTGTGTAC TAATATCTGA TTAnAAATAT TGAT         | 1374 |

(2) INFORMATION FOR SEQ ID NO: 555:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1472 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 555:

|    |   |      |
|----|---|------|
|    | TTACCTCTAG GCATGTCCCT TTCACGGTTT GCTTATGATA ACGTTATCGA CATTGTTAAA   | 120  |
|    | TTGTCCTTTT TGAAAAAATA ATTCTGGTGA GATAGACGCT ACTTGGA <sup>t</sup> TTT CaTCaGTTTG                           | 180  |
| 5  | TAAtAACGCA GtATAAtTAC CaTTACTAAA tTGaGTTAAT CGTTCaTATA AAGTACTAAT   | 240  |
|    | AGGATAATAA ATGTTATCCG TTAAGCGCGC CGTATAGTTC ACTTGATACG TTTCGCCTTC   | 300  |
|    | AACAATTGCT TGTGGACAC GTTTAATATT AGTCATCATA ACCTCAGAAG ATTCAACAAA  | 360  |
| 10 | TGAAAAATGA TACTTTGATA CATAAGAAGT TTGATGTTCA TATGTTGAAT TTATGCTTTC   | 420  |
|    | CGCTTTTTCa AACTATAAG CTGCTGCATA AATATCATCT TTAGCTAATG AATGTGTACA  | 480  |
| 15 | CATAGCATGA TTA <sup>a</sup> AAATACT TTGCCGCTTC GTA <sup>a</sup> ACTTAA <sup>a</sup> TATAACGAGA CATATCTACC | 540  |
|    | TTGTCG <sup>t</sup> kGt GCGCTTG <sup>t</sup> GC AAAGTGATC ACTTCTCCCA CATCAGCCAA CTTAGTAGCA                | 600  |
|    | ACATACTTCT TTATAAATCC CTTTAATTGA ATATGGTATT GCTTATATTC ATTTTCAGTT   | 660  |
| 20 | AAATAGTAGC GATAATTATA TTCTATTCTC ACAGTAATCA CCTACCTTCG ATAAAAATAA   | 720  |
|    | TTCAACTTGT CGATAACCGT ATTCACTCAA AATAGATTCA GGATGATATT GCACACCAAA   | 780  |
|    | AACCGGAAAT CTAATATGCT CAAATGCCAT AATAATCGCT TCATCGTTTT TTGCTGTAAT   | 840  |
| 25 | CTTTAAGCAA TTTGGAAAAG TCGCTCCGTC AGCAATTAAT GAATGATAAC GCATTACATT   | 900  |
|    | GAAATTTTGA GGCAGTCCTT GAAAAATACC TTCATTGGTA TGGCGTAACT GTGTAGTATG   | 960  |
| 30 | TCCGTGTACA GGATGATAGC CGTGAATGAT ATTTCCACCA AAATAAGACA CGATACATTG   | 1020 |
|    | AAATCCTAAA CATAACCTA GTATAGGTAC ACGCTGATAA AATTGTTCTA ACACTTCATT  | 1080 |
|    | CAAGATAGGA TAATCATCCG GaTTACCCGG CCCAGGCGAA ATAACAATTG CTTTTGGCTT   | 1140 |
| 35 | CATATTAATG ACGTCTTCTA TCAGCAGATT ATCAATACCA ACAACTTGAA CTGTTAGTTT   | 1200 |
|    | CGTTTGAGTC TTAATATAGT CTATTAAATT ATATGTAAAT GaATCATTAT TATCTATGAC   | 1260 |
|    | TAGAATCATT GTATACTCCG TTCTAAATGT GTTTTATTTT TATAATATGT ATTGGATGTA   | 1320 |
| 40 | GCTAA <sup>a</sup> ACTT TAAAAGCATT GTCATTATCC TGACCTTGAT TTTAACTAAT ATATGGTATA                            | 1380 |
|    | TTCTATT <sup>a</sup> CAT CGTACATAAA TGAATATCAG AGGTTCTAG CTGAAACCCT CTATAAAAAA                            | 1440 |
|    | CTAGGCCATT GAAATTTCAA ACATT <sup>a</sup> CGTTG GG   | 1472 |

(2) INFORMATION FOR SEQ ID NO: 556:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1054 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

AGAACAGCAA GGATTACTTA CTGAGGAATT AAAGAAGGAT ATTTTAAAAC AGAACAAATT 60  
 ACAACGTGTT GAAGACCTAT ATAGGCCTTT TAAACAAAAG AAAAGACAA GGGCAACTGA 120  
 5 GCGCAAACGT AAAGGGTTAG AGCCATTAGC GATATGGATG AAGGCACGTA AACATGAAGT 180  
 CTCAATTGAA GAAAAAGCAC AACAATTTAT AAATGAAGAA GTGCAATCGG TTGAAGATGC 240  
 TATCAAAGGT GCACAAGATA TTATTGCGGA ACAAATTTCA GATAATCCTA AATATAGAAC 300  
 10 AAAAATTTTA AAAGATATGT ATCATCAAGG TGTGTAACT ACATCTAAAA AGAAAAATGC 360  
 TGAAGATGAA AAAGGTATTT TTGAAATGTA CTATGCATAT AGTGAGCCAA TTAAACGCAT 420  
 15 TGCTAATCAT AGAGTTTTAG CTGTTAATCG TGGTGAAAAA GAGAAAGTAT TATCTGTAAA 480  
 GTTTGAATTC GATACGACAT CAGTAGAGGA TTTCAATTGCA CGTCAAGAAA TCAATCATAA 540  
 TAATGTAAAT CGCAGTTATA TTTTAGAGGC GATTAAAGAT AGCTTGAAAC GCTTAATTGT 600  
 20 CCCTTCGATA GAGCGTGAAA TCCATGCTGA TTAACTGAA AAAGCTGAAA ATCATGCAAT 660  
 AGATGTTTTT AGTGAAAAC TAAGAAATCT ATTACTGCAA CCTCCAATGA AAGGTAAACA 720  
 AATATTAGGC GTAGATCCAG CATTTAGAAC AGGTTGTAAA TTAGCAGTCA TTAACCCATT 780  
 25 CGGTACTTTT ATAGCAAAAG GTGTGATTTA TCCGCATCCA CCAGTTTCTA AAAAGAGGGC 840  
 AGCAGAGAAG GATTTTGTAC AAATGGTTAA AGCGTATGAT GTGCAATTAA TTGCAATTGG 900  
 CAATGGTACT GCAAGTCGTG AAACAGAACA ATTTGTTGCA GATTTAATTA AAAAGCATCA 960  
 30 GTTGCCAGTA CAATTCATCA TTGTCAATGA AGCGGGCGCT TCAGTATACT CAGCATCAGA 1020  
 AATTGCTAGA GATGAATTC CTGATTTTCA AGTG 1054

(2) INFORMATION FOR SEQ ID NO: 557:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1057 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 557:

45 AAATGTCAGA ATACAAGAAA AAAATAATTG AATTAATTGA AAGTAATTTA ACAGGATATG 60  
 AAATTTCTAA AAAAAGTGA GTTTCTCAAT ACGTACTTTC ACAATTAAGA CAGGGCAAAC 120  
 50 GCGAAGTAGA TAATCTAACC CTGAATACAA CAGAAAAATT ATATGAATAT GCCAATAAAG 180  
 TTTTGTAATT TAACTAATGT ATAAATTAAT CAAGCTATGT TTATTTGATT TAACTATTAA 240  
 TAAAAATCAT ATCGTGAATG GATATTATAA TAATTAAAAT ACAAAAATAG TAGATTCCAA 300

AAGGGAAAAT AAGTGTTAAG TTTTAAATGA TAAAAAAGAT TGGAATGGAT CGTCTTGAAA 420  
 TGCTCCCTTC AAAGTTTTCA TTTTTTCAAT GTCGACTTCG AAGGGGGCAT TTTCATTAAA 480  
 5 TTGTTATAGC TTTTATATT TGTATAATGA ACATATAAGT TTAAGAAGGT GCGAGTGAAG 540  
 GAAATAAAAA AGCTCAAATG TACCAAATTG TTAATCTTAA TAAATCTCTA CTTTATAAAG 600  
 ATTGAATGGA CATTGAGCG TTAATCAGTC AGGAGGGACT TTCCCTCCTA CAATTTAATA 660  
 10 ATAATACTTG CTTCACTACT ATACAAGGAG TGAGTTGTTA TGTTCAAAGT GAATTATTCG 720  
 ATTTTAAGTT ATTATCCAGA ATATAATATC GCAGTAAGTT GGCAACGTTT AAGAGAAGGA 780  
 AAAACAATAA AAAACAAGAT TTAATACTGC TCGTCATGA GCGCTTGAA CATTATTTGA 840  
 TGAATAAGTA TAATTTCAAC TATGATTATG CACATAAAAT TGTATCAAAA AAATACGATT 900  
 ATTCAATTTT TATAAAAaAG AAGGTGGATT AAATGCTTAC ATTAATAAAA TTGGAAAGAA 960  
 20 GATGaACAGG tTATAATATA TGraTATaT CCTGaAGATG aTATAAGTAC CGGGTAAAGG 1020  
 GTCCCGTACC TTTTAAATTA AAAAAGTTCC AGGGGGT 1057

(2) INFORMATION FOR SEQ ID NO: 558:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3754 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 558:

CTGTGCTGTA TTTACTTTAA TTTGACGACA TTTGAGAAGT ATTATGATGG nTG TAGTTAT 60  
 TTTATGAAAG TAATGTATTA ACAATCGAAT TACTAAGTCT ATATTGGTAG GAATATCGAT 120  
 GTTTAGTTTA AATGGAATGC ACTATTTAAG TTTTAAATAT GGAGATGTTT GTGACTTTTC 180  
 40 GATGATTAAG ATTTTTATAG GTGTGCATCA TTTCAAATAA ACTTTGTGTT TAAAATTGAG 240  
 CTTAGGAAAT CGATAGGTTT AGATGAGGAT ATTGTTGAAG TTATGTGTCT TGTATCCTTA 300  
 GTTGTATATA AAGCGCAAAA AATAGCACCG CTTTCTCTTT ATCTGTGTAG AAAGGATGCT 360  
 45 ATTATTGTAA AACAATAGTT TTAATTTnAT TTTCTGATaT ATCATATGT r ATTcTACCTG 420  
 TATCAATTTT TATCGAATTA TAACCATCAA AATTATCAAC TTTATCATCA AAGTCTATCA 480  
 CTTTTCCAAT TAATATTTTA TTATTAGTAA GCGTTAATTT GACTAATTTG CCTATGTATG 540  
 50 ACTGTAAATT CATATTTAAT CACTCCTTTT TAATATACGG AACTACATGA AAACCAGTTT 600  
 TAGAATAATG AACCTTACCT AATTCGTTT CAATATATTT ACCATTCA CA TAAGATTTAC 660

|    |            |             |            |             |            |             |      |
|----|------------|-------------|------------|-------------|------------|-------------|------|
|    | AAACTGGAAT | ATCAATAAAT  | TCTTTTTTAG | TCATCTTTTC  | ACTTTCATTA | GAATCTATTA  | 780  |
|    | TAGTATAACT | TGGTAATAAA  | GATGAATTAT | TTTTCTTATT  | ATTATATTCA | TTTGTGCATA  | 840  |
| 5  | AAATATGACG | CTTTTGCTTA  | ACATTATTCA | ATTTTCATCGT | CATTTTACCA | TTACTTATCA  | 900  |
|    | TTTCAAGCAT | TTCTTTTTTA  | GCTTTTTGTA | GAAAGGATGC  | TATTTTGTAA | TTATTTTAAT  | 960  |
|    | AATCTAATAC | TTTTTATCTC  | AGTTTCATCA | AACGAATAAA  | CAGCAAAATC | AGTCTGTATA  | 1020 |
| 10 | TCTACAACAA | GATTTCCCTGT | TTCGCTCTCG | AATTCATTTT  | CATAGTCAGT | TACAAACCCT  | 1080 |
|    | TCGTATTCTT | CATTATTCAA  | AAGCGTGATA | ATAACATCTT  | TACGATATGC | ATCTnCAATT  | 1140 |
|    | CTCAATACTT | TTCACCTACT  | TATCAATATA | AGGTACTATA  | TGaGcACCTG | GTCTTCGAAT  | 1200 |
| 15 | AATGGCACTT | cCCTTTCTGG  | TTTCAATATA | CACATTTTCG  | ATATGTATTT | TTCCAATAAT  | 1260 |
|    | TTGATTAAAA | TTAATAATCT  | CTTTCAAATC | AAATCGCTCA  | TCACTTAATA | TTAGATTGCC  | 1320 |
| 20 | TGTTGACATT | TTTTCTCTTA  | ACAATTCATT | CAATAAATCT  | ATAGAAAGTA | TTGTATAGCT  | 1380 |
|    | AGGCAATTTT | TTATTATTTA  | AAATGGCTCT | TTTTTTATTT  | TCATTATATA | GGTGATGACC  | 1440 |
|    | TAACATATAT | CTATTTTATT  | TTCCGCAATT | TATTTCTATT  | TTTATTTTAC | CATTTTTAAT  | 1500 |
| 25 | CATTTCTTTC | ATCTGGTTTT  | TAGCTTTTtC | CTGtAATTAT  | GCTTCTTTTA | CTTCTACTTG  | 1560 |
|    | ATATTTACc  | TCACGCTCTT  | TAAAGAACTT | GTCCCGCCAA  | TTGCCAACAT | GTGGCACTGT  | 1620 |
|    | GGTACTTCTA | CACCAAGGAT  | GCATAGGTGG | CGCATTCA    | CCTGGTATCA | TATCTTTAAC  | 1680 |
| 30 | TTTAAATATT | TTTCCGTTAA  | GTGAATGACA | TAATTTAGAT  | GTTTTACTAT | CTATTTTGGC  | 1740 |
|    | AACATATTTA | TATTCGCCAT  | CTTCACCAAG | TTCTTTTAAA  | TATGTAACT  | TTTGTGCTTC  | 1800 |
| 35 | TGCATTTTCA | GTAAATAGTT  | AAAAAAGCGT | ATAAAAATAG  | CACCACTTTC | TCTTTAkCTG  | 1860 |
|    | TCTAAAAAGG | ATGCTATTTA  | TCTTTTGAAT | TTGAATTCIT  | TTTCGCTTTT | TCTATACTTT  | 1920 |
|    | CAAATTCCTC | AACTAATTCT  | TTAAAAGATT | CACTCAATTC  | TTTTGCAGTT | ACATTTCCAT  | 1980 |
| 40 | CTAATTGTGA | ATCTAACATA  | ATTAAAATCA | TCTCACTTTA  | TATTTAATCa | TATTTTATACT | 2040 |
|    | ATAAAGTTTT | TTCAATAATT  | TTTCAATATG | GCTATCATTa  | ATGATATTAA | TATGCGTAAA  | 2100 |
|    | ATATTTAGCA | CAAAATTTAC  | TCACTATTTT | ACCATGAAAC  | CTATTTGACT | TGGTAATAAA  | 2160 |
| 45 | TTTTACTTGT | CCCTTATTAG  | TAACGATTGT | CATTGATTTT  | ATTGATGGAT | GCTTAAAAAA  | 2220 |
|    | TGTAAATAAA | TCATATTCTG  | AAAATCCTGA | CTGTCCAGGA  | TGGTTATGTA | ACATAACAAT  | 2280 |
|    | TGAATTCGGT | TTACTGTTAA  | ATAATAATTC | GGTTGCTTGT  | TACCCTGGCA | CAAAAGATAC  | 2340 |
| 50 | ACTATCTTGA | TTGACATATA  | CTTTTGTA   | TTTACCATCT  | TTTAACAAAT | AAGCTACTTC  | 2400 |
|    |            |             |            |             |            |             | 2460 |

GAAGGTAAAA ATTTTAAAG TAAACTTTCT TTATCCCCAT GCTACGAGTT CAGATTCAGG 2580  
 AAATAGCCCT TTACTAGTAT TTATGTATAT TCTGTCTATG GCATGAATAA AATAATTATC 2640  
 5 TCTTGTATTT tTTTCTAAAC TAGATTTTTC AGCAITGATA ACTTCAAGAC TATCTATATC 2700  
 CATTTGAATA ATACCAGGCT TAATATTTTC ATCATTATTA GGAAAATATT TATATGTAAC 2760  
 ACTTTTATCA TTAATTTCTT TTATTTTAA TATTAGCAAT CATTTCCACC TCTAATTAAT 2820  
 10 TAAAATACTA TAATTATATT TTATTTCTGT AAGTTTATGT GCCTCTATAT AGTGTAAT 2880  
 ATACTTATTC ATTAGATAGT GTTCAAGAGC TTCATGTTT TACATTATTA TATCCATTTT 2940  
 15 TTTAATATTT TTCCCTTCTC TTAAACGTTG CCAACTTTGA GCCATATAAA AGTCAGGATC 3000  
 AAATTGTTTA AATCCACTTT CTAATAAATA CTTATTTTCA AATATATGTT CATAAACTCT 3060  
 TTGAATTAAA TTTTATTTA TATTAgTATT TTTAGCAATT TTAGAAATCT CTATCTGTTT 3120  
 20 ATCTCGATTT CTAAGTGAAT TATAATAAAT TTGAGCATGT CTGTTCCCTT TGATACCGTA 3180  
 TTCATCACTT TTATTATTAA GTGCACCTGA TTCAATAAAA CAACCTTCTA CTTGATATTT 3240  
 ACCTTCACGC TCTTTAAAGA ACTTGTCTCG CCAATTGCCG ACATGTGGCA CTGTGGTACT 3300  
 25 TCTACACCAA GGATGCATAG GTGGCGCATT CACACCTGGT ATCATATCTT TAACTTTAAA 3360  
 TATTTTCCG TTGAGTGAAT GACATAATTT AGATGTTTTA CTATCTATTT TGGCAACATA 3420  
 TTTATATTCG CCATCTTCCA CCAAGTTCyT TTAAATATGT TAACTTTTGT GACTCtTCyT 3480  
 30 TTTCAACGAA TAATGAAAAA AGCATATAAA AATAGCATCG CTTTCTCTTT ATCTGTGTAG 3540  
 AAAGGATGCT TTAATACCaT GCTATTTTAT AATTTTcGGG AAATTcTTGC TTCTCGATAA 3600  
 AGTCTCTTAC TACAGAAAAA GACTTATTAC GATATAACAT AAAATATTCT TCATTTTCTA 3660  
 35 TTTGAGATAA TGAGAAATCT ATAACCTCTG CATCTTTTTT ATTAAAAGTT ACTGAACCTT 3720  
 TACCGTTACT TATATCATCT TCAGGTATAT ATT 3754

(2) INFORMATION FOR SEQ ID NO: 559:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 815 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 559:

ATTTAACTAA AACTATAaAT AATCAAATGA TATTGGAAGA TATTaGCATA GATATCGAAA 60  
 AAGGTAAATT GACTTCTTTA ATTGGACCTA ATGGTGCGGG TAAGAGTACT TTACTTTTCAG 120

CTGATTATAA AAATAATGAC TTGTCGAAAA AAATATCTAT ATTAAAACAA ACAAACCATA 240  
 CTGAAATGAA TATTACGGTA GAGCAGTTGG TAAACTTTGG ACGATTCCCT TATTCTAAAG 300  
 5 GTCGTTTGAC GAAAGAGGAT CATGATATTG TCAATGATGC GCTAGATTTG TTGCAACTAC 360  
 AAGATATCAG AAATCGTAAT ATTAAGTCAT TATCTGGTGG ACAACGTCAG CGTGCATACA 420  
 TTGCAATGAC AATAGCACAA GATACTGAAT ATATTTTGCT AGATGAACCA TTAAATAATT 480  
 10 TAGATATGAA GCATGCTGTT CAAATTATGC AAACGTAAAA AATGTTAGCG CATAAAATGA 540  
 ATAAAGCGAT TGTCATTGTG TTACATGATA TTAACCTTGC GTCCTGTTAT TCAGATCAGA 600  
 15 TTGTAGCATT GAAAAACGGA CAACTAGTTA AGTCAGATTT GAAAGATAAT GTCATTCAAA 660  
 GTAGTGTGTTT AAGTGATTTA TATGACATGA ATATTCAAAT TGAACATATA AGAAATCAAA 720  
 GGATTTGTTT ATATTTTAAG GATTGATAAT TTGGAGaCAC TTTAAAGGGG TGATGCGCCA 780  
 20 ATTAAAGAAG GGTAAACGT AAAGCATTTA TTTAT 815

## (2) INFORMATION FOR SEQ ID NO: 560:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 919 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 560:

GAAACGAATA ATAAATTTAC TGAGTTATTA GTTGAAAAAG CTAATAAACA TGATGATGTT 60  
 35 CTCGATAmGT TGATTAAATAT TTTAAAATAA GCGATACACA CTAATAAAAT TGTATTATTA 120  
 TTATGTTnAA TTGACnCTC CTAAATTTGC AAAGATAGCA ATTTAGGAGG CGTGTTTATT 180  
 TTTATTGACG TCTAACTCTA AAAGATATAA ATTAGACATT TACAAATGAT GTAAATAACG 240  
 40 CAATTTCTAT CATCGCTGAT AACAAATCAT GGTTTAATAT GCAATGAGCA TATACTTTTT 300  
 AAATAGTATT ATTCAGTAGT TTTAACAATC AATTAATTGG TATATGATAC TTTTATTGGT 360  
 TATTTTTATC CCATAGTGTG ATAATTACTA TTTTTCATTC ATAATAAAGG TTTAAAGCAT 420  
 45 GTTAATAGTG TGTAAGATTA ACATGTACTG AAAACATGT TTAACATAAT GATATAAGGA 480  
 GTGACGTACA TGATCCGTCT AGGTAAAATG TCAGATTTAG ATCAAATCTT AAATCTAGTA 540  
 GAAGAAGCAA AAGAATTAAT GAAAGAACAC GACAACGAGC AATGGGACGA TCAGTACCCA 600  
 50 CTTTTAGAAC ATTTTGAAGA AGATATTGCT AAAGATTATT TGTACGTATT AGAGGAAAAT 660  
 TTTTAAATTA ATGAGTTTAT TTGTCGGGAG CAAGACCAAG CAGAATGCTA VGnVGACATT 720

TATAAAGGAG CTGCTACAGA ATTATTCAAT TATGTTATTG ATGTAGTTAA AGCACGTGGT 840  
 GCAGAAGTTA TTTTAACGGA CACCTTTGCG TTAACAAAC CTGCACAAGG TTTATTTGCC 900  
 5 AAATTTGGAT TTCATAAGG 919

## (2) INFORMATION FOR SEQ ID NO: 561:

## (i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 518 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 561:

ATCATATAAA CCGGCTGCTT CTAAAAACGA AAATACTGTT ACTGGACCTA AAAATTTAAA 60  
 20 CCCGTATTGT TTTAAATCTT TAGATAGTTG TGTTCAGTA TCATCAACTG TGATACGATC 120  
 AGAAGCATGT TCATACTGCA AATCTTTAGG CTTACCATT ACATATGACC ATAAAAATTT 180  
 ACTAAACTA CCATATGCTT GTTCAATTTT TAAATACCCT TGAGCTTGAT TAACAATTGC 240  
 25 TTCTAATTTT TTACGATGAT GAACGATATT TGGAAAAGTC ATTAAGCGGT CGATATCTTG 300  
 AGCGGTCATT TGTGCTACCT TTTCTGGTTC GAAATCATAA AATGCTTCTT CATAGGCTTC 360  
 TTTCTTTTTT AAAATAGTTA ACCAAGATAG CCCAGCATGT TGTGaTTCTA ATGCTAAAAG 420  
 30 TTTAAACAAT GCCTTGcAT CATAGAGCGG TTGTCCCAT ACATGGATCm TGATAGTCTA 480  
 AGTAGACTGG GATCTTTAGT ACCAAATGCG CATTCAAT 518

## (2) INFORMATION FOR SEQ ID NO: 562:

## (i) SEQUENCE CHARACTERISTICS:

- 35 (A) LENGTH: 1539 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 40 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 562:

45 CTTATTTAAA AGTAAATCAA TCAATGTATT ATAATCCGAA TAGTCCGCAT AAAGCTGGTT 60  
 TGCaGGCAAA tCAATTACTA CAACAAGCAA AAACCCAAAT TAATGCAATG rTTaATTCAA 120  
 AAACAAATTA TGATGTTGTA TTCACTAGTG GTGCacTGAA TCCAATAATC TTGCTTTAAA 180  
 50 AGGTATTGCC TATCGTAAAT TTGATACAGC GAAGGAAATA ATTACATCCG TGTTAGAGCA 240  
 TCCGTCCGTA TTAGAGGTTG TAAGATATTT GGAAGCACAC GAAGGATTTA AAGTTAAATA 300

CAAAGTCGGT TTAGTAACAT GTATGTATGT AAATAATGTA ACTGGACAAA TACAGCCTAT 420  
 TCCACAAATG GCTAAAGTTA TAAAAAATTA TCCTAAGGCA CATTTTCATG TAGATGCGGT 480  
 5 TCAAGCATTG GGCAAAATTT CAATGGATCT CAATAACATA GATAGTATTA GTTTAAGTGG 540  
 ACACAAGTTT AATGGTTTAA AAGGACAAGG CGTCTTACTT GTAAATCACA TTCAAAATGT 600  
 TGAACCAACT GTCCATGGTG GTGGTCAAGA ATATGGTGTT AGAAGTGGAA CAGTTAATTT 660  
 10 GCCAAATGAT ATTGCAATGG TTAAAGCGAT GAAGATAGCT AATGAAAAT TTGAAGCATT 720  
 GAATGCATTT GTTACTGAGT TAAATAATGA CGTCCGTCAA TTTTAAATA AATATCATGG 780  
 AGTTTATATT AATTCTTCAA CTTCAGGTTT ACCATTCGTT TTAAATATTA GTTTTCCTGG 840  
 15 CGTAAAAGGT GAAGTATTAG TTAATGCTTT TTCAAAATAT GACATTATGA TATCTACGAC 900  
 AAGTGCTTGT TCATCTAAAC GTAATAAATT AAATGAAGTA TTGGCTGCAA TGGGATTATC 960  
 20 AGACAAATCT ATTGAAGGTA GTATAAGATT ATCATTGTTG GCTACTACAA CTAAAGAAGA 1020  
 TATAGCGAGG TTTAAAGAAA TATTTATCAT CATTTATGAG GAAATTAAGG AGTTGCTAAA 1080  
 ATAATGAAGT ATGATCACTT GCTTGTTAGA TACGGGGAGT TAACATTAAA GGGTTCAAAT 1140  
 25 AGAAAGAAAT TTGTAAATCA ATTAAGAAAT AATGTAAATA AGTCATTAAA AGGACTTGAT 1200  
 GGGTTTGTCT TTAAGGCaA ACGAGATCGT ATGTATATTG AACTTGAAGA CCATGCaGAT 1260  
 ATAAATGAAA TAACATATCG ATTATCAAAA ATTTTCGGTA TTAAATCTAT TAGTCCAGTA 1320  
 30 TTAAAGTAG AAAAAACAAT AGAGGCAATA AGTGCAGCGG CAATTAAATT gCGCAGaATT 1380  
 TGAAGaAAAC AGCACATTTA AAATTGATGT GAAGCGTGCC CGATTAAAAT TTCCCCAATG 1440  
 35 GATACGGTAT GGAATTACAG CGTGAATTG GGGTGGTGCC AGTATTGGAG CACTTCGCCA 1500  
 TATTTCCAGT GGATGTCCAA CGTCCCAGnC CCAGGAATT 1539

## (2) INFORMATION FOR SEQ ID NO: 563:

- 40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 968 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear  
 45

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 563:

50 ATAnCGTATA CATGTGTTCT TAAAAATTGT GATAAGGAGT TTAGGATGGT TTATTTAAAA 60  
 TCAATAGATG CCATTGGATT TAAGTCTTTT GCAGATCAAA CCAATGTTCA ATTCGATAAA 120  
 TCAATAGATG CCATTGGATT TAAGTCTTTT GCAGATCAAA CCAATGTTCA ATTCGATAAA 180

ATCTTCTCAG GTGCAGAACA TCGCAAAGCT CAAAATTATG CTGAAGTACA GTTAAGATTA 300  
 GATAATCATT CTAAAAAGCT CAGTGTGAT GAAAACGAAG TTATTGTAAC AAGAAGATTG 360  
 5 TATCGAAGTG GTGAAAGTGA GTACTACATA AATAATGACC GTGCAAGATT AAAAGATATT 420  
 GCCGATTTAT TTTTAGATTG TGGATTGGGA AAAGAAGCGT ATAGCATTaT CTCGCAAGGT 480  
 AGAGTTGATG AAATACTAAA TGCTAAACCA ATTGATAGAC GTCAAATTAT TGAAGAATCG 540  
 10 GCTGGTGTAC TTAAATATAA AAAACGTAAG GCTGAATCAT TAAATAAACT TGACCAAACA 600  
 GAAGATAATT TAACGAGAGT AGAAGACATT TTATATGATT TGGAAGGTCG CGTAGAACCT 660  
 CTAAAAGAGG AGGCAGCTAT AGCTAAAGAA TATAAGACAC TTTCACATCA AATGAAACAT 720  
 15 AGTGACATTG TAGTTACAGT sCACGATATT GATCAATATA CAAATGACAA TAGACAATTA 780  
 GATCAACGTT TAAATGATTT ACAAGGCCAA CAAGCAAATA AAGAAGCTGA CAAGCAACGT 840  
 20 TTAAGCCAAC AAATTCAACA ATATAAAGGT AAACGTCATC AACTTGATAA TGATGTTGAA 900  
 TCgCTTAATT ATCAATTAGT AAAAGCTACG GAAGCCTTTG AAAAATATAC GGGACAATTA 960  
 AATGTTTT 968

(2) INFORMATION FOR SEQ ID NO: 564:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 436 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 564:

TTGTGTGTAT GCATTCAATG TGCTCTGTTT GTAAATGGCT AGCTATATAA TTTAgGATTG 60  
 GAGGATCGTC ATCGACAACA AGACATTGCA CCATAGCTAT AAACCTCCCTT ATCTTTTTTCA 120  
 40 TTTATTATAC ATGTAAAATA TTTTTCGTA AAAAAACAAT TGTTTCATATT GAGTTTCATAT 180  
 TTCAACCTTA TACTGACGCT AAAGAAGAAA TAGGGAGAAG TGAATCGATA TGAAATTAGC 240  
 GATAAAAGAG ATTATGTTTT ACAAATTTTCG TTATATTTTA ATCACATTAA TCATTCTTTT 300  
 45 ATTAAGTATT ATGGTGTTAT TTATTAGTGG TTTAGCTCAn GGGCTTGGTA GGGaGAATAT 360  
 TTCGTwATTT GAACACTTTG GATAATGATG aaTATGtTGT TCaAAAAATG AAAGAGCCGC 420  
 aaATTGaGAA ATCGCA 436

(2) INFORMATION FOR SEQ ID NO: 565:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 2554 base pairs

(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 565:

|    |  |      |
|----|--|------|
|    | ATGTTTTGTC AATATCAATT GTTTGAGATA AATCCGCTTG TATAAACGA ACTTTATCAT   | 60   |
| 10 | CATTAAATTT GCTAGTTAAT TCATTTATAT CAGTACGATA ATATTGCACA TAAACTTCAA  | 120  |
|    | ATCCATCAGT TAATAATTGT TTGACTATCT CAGAACCAAT TGAACCAGAA CCACCTAATA  | 180  |
|    | CTAATGCTTT CATTACTTTT TAATCTCCAA ACGACTATCG ACTTGCTGAT CTAAATTTAA  | 240  |
| 15 | ATATAACGAT GACGTTTCGT TAATACTATC TAACGTGATA TTTTCAACAA TGTCTAACAT  | 300  |
|    | GTCAAACACG CTAACACCTT CAAAATACAA TTTAGTATAT TGATTAGCAA TATATTCAGG  | 360  |
|    | TGAGTTTAAA CTTGATATGA ATTCACCTAT AAATTGCTTT TTCAAAAGTT CAAATGCTTC  | 420  |
| 20 | TGCATCTTGG AAATGCGCTT TTTTATCACG CAACTCATCT AATAATAATT TTTTAAATTT  | 480  |
|    | ATCTGGTTCT TCAGTAGCAC TTGTCACGAT TGAAAACTA TACGTCGGCT CTAGTACAAA   | 540  |
| 25 | TTGATAACCA AATGTATCAT CGATAAGTCC TTCGTTTAAT AAATCTGAT AAAAATCTGT   | 600  |
|    | TTCTTCCCCA AAAATTAAct CAAAGAATAA TGACATTTCT AAATCACGTT GTACATATTT  | 660  |
|    | TTGAGGCGCT TCTTGAATG GTTTATTTTT AAAACCAAGC ATTAGTCTTG GTGATTGAAT   | 720  |
| 30 | TTTCATAGAT TCAGTAACAA ATGCTTCTTT AACATCCTCC GGTTTCATCA CAAGTCCTCG  | 780  |
|    | TTGATTTTG GGTGGTTAA CTTTATTACG AGCATCCTCG TGTTGTTTTA CTATTCgACA    | 840  |
|    | TATTGCTTCA GGATCCACAT CGCCAACAAC AAATAAAACC ATATTTGATG GATGATAAAA  | 900  |
| 35 | CGTTTCATAA CATAGATACA AATCATCTTT TGTAATATCG TATATACTTT CTACACTACC  | 960  |
|    | GGCAATATCA ACACGTATTG GATGTTGTTG ATACATTGCA CGCAATGTAT TaAACATTAA  | 1020 |
|    | TTTATATCCA GGTGCTCTT GaTACATTTT TATTTCTTCT GCAATAATAC CTTTTTCTTT   | 1080 |
| 40 | ATCAACAGTT TCTTTTGTA AATAAGGCGT TTCaACCATT GTAAGTAAAC GTTTAATGTT   | 1140 |
|    | GTTTTCAATA TeATCAGTTG CACTGAACAA GTAGCTTGTA CGATCAAAGC TTGtAAACGC  | 1200 |
| 45 | ATTTGCTTGT GCGTTATCTT CAGCAAACGC AGTAAATAAG cTTCTTCTTC TTTTCAAAT   | 1260 |
|    | AATTTATGTT CcTAAAAAGT GAGCAACTCC ATCAGGTACA GTAACAAATT GGTCTTGTC   | 1320 |
|    | AAGGGGTTTG AATTGATTAT CTAATGAACC AAATTGTGTA GTGTAAGTGA CAAATGTCTT  | 1380 |
| 50 | TTGAAAACCT GGTTkGGGGA TAATAAATAA TCGTAAACCA TTTTCTAATt CTTGTTCGAA  | 1440 |
|    | tACTCTTTTCG TCTATTAATT CATAATAACG CTCTTTCATT ATTTATCCCC TCCTTTTGTC | 1500 |

TTATGCATAA TCTCTATAAT ACTTTTCGGA CGATCTTCAG ATTCATATCG ATGAGAAATG 1680  
 ATTACTTTTT TAGCTAACTC TAATTTTTCT TCAGTGAAAT CTCCTGCTTT TATTTTTTCA 1740  
 5 AATTCACCTTA TAATAGTGTC TTTTGCAGTT TCGTACTTAT CACTTGAAAC CCCACTCAAA 1800  
 ACAATAAAT AGCCATTTTT GCCATCAATT TGTGAATGTA TAGAGTACGC TAAACTTTGC 1860  
 10 TTTTCTCGCA CTTCAATAAA TAAAACAGAT GAAGGATCTC CTCCAAACAT CATGTTAAAT 1920  
 ACAACAAAGG CAGCATATCC ACTTTGTCCA TATTGTGTTG GAAAACGGTA TCCCATATTT 1980  
 AATTTAGCTT GATCCACGTC ATCATATTCA ACAATATAAT CAACTTCTTC ATCGTGTAAT 2040  
 15 TGATGAGTAG AATGTTGGAA TTGATGTTTA TCGAATGGTT TAAGTGCAA TTTTTCACGT 2100  
 ATTTGTTTCT CAACACTTTC AGGTTCTACA TTGCCGACAA CATAAACAGA ACATTGATCA 2160  
 TTATTAATCA TTGATTGATA TGTATGATAT AGTGTTTCAG CAGTAATATG TGGGATTTGT 2220  
 20 TCTAGTTGTC CTGTAGATAA GTATTTATAT GCTTCATTTT CAAACATATG GTCGAGTAAT 2280  
 TTTAAAACG AATATTGTGC TTTATTATCT ACCATTGCTT CTATTTTTTTT GGCTAATAAT 2340  
 GTTTTCTCTT GGTAAACAAA ATTATCATTG AATGCTTTAT TTTCAATTAA TGGATTCCAA 2400  
 25 ATGATTTCTT GtAATAAATC TAATCCTTGa TTAAATAATG AwTCACCGkT TCyTAAATAA 2460  
 CGkkCaTTAA caATTyCTAA tGaAAATGtA ATgACaTGCT GaTCTTTGAA TTTTGAAATT 2520  
 30 GTACTATTCA CATACGCACC ATATAAATCG GCTA 2554

## (2) INFORMATION FOR SEQ ID NO: 566:

## (i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 1424 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 566:

40 TnTCGCTATT TtnAATTGGT TTTGTATGGT TTAAGTTATA TCAATATACA ACAnACCCTA 60  
 45 AAGCTGATAT CCCAGGTATC ATTTTtagTA CGATTGGTTT TGGTGCTTTG TTATATGGTT 120  
 TCTCAGAAGC TGGCAACAAA GGTGGGGTT CAGTAGAGAT AGAAACAATG TTTGCGATTG 180  
 GTATTATCTT TATTATTCTA TTCGTTATTA GAGAATTAAG AATGAAATCA CCAATGTTGA 240  
 50 ATTTAGAAGT ATTGAAATTC CCaACATTTA CATTAACAAC AATTATTAAT ATGGTTGTAA 300  
 TGTTAAGTTT ATATGGTGGT ATGATTTTAT TACCGATTTA TTTACAAAAT TTACGCGGAT 360  
 55 TcTCAGCATT AGATTCCGGA TTGTTATTAT TACCTGGTTC TCTAATTATG GGTCTACTAG 420

TTGCTGTAAT GACTTATGCA ACATGGGAAT TAACTAAATT AAATATGGAT ACACCATATA 540  
 TGACAATCAT GGGTATCTAT GTACTTCGTT CATTGTTAT GGCATTTATA ATGATGCCAA 600  
 5 TGGTAACTGC AGCTATTAAT GCGTTACCGG GACGACTTGC CTCTCATGGT AATGCTTTCT 660  
 TAAATACGAT GCGTCAATTA GCAGGCTCTA TAGGTACAGC AATCTTAGTT ACTGTAATGA 720  
 CAACACAAAC TACACAACAC TTATCAGCTT TTGGGGAAGA GTTAGATAAA ACGAATCCTG 780  
 10 TTGTACAAGA TCATATGCGT GAATTAGCAT CACAATATGG CGGACAAGAA GGCACAATGA 840  
 AAGTGTTACT ACAATTTGTA AATAAACTAG CAACGGTTGA AGGTATTAAT GATGCATTTA 900  
 15 TAGTTGCAAC GATATTTAGC ATCATCGCCT TAATTTTATG TTTATTTTTTA CAAAGTAATA 960  
 AAAAAAGCAA AGCTACAGCT CAAAAGTTAG ATGCAGATAA TAGTATCAAT CATGAATAAA 1020  
 TAAATAAAT TAATTGAAGT GTGACTAATC AAAAATTATG TTGTGGGGAC ATGATTTTTTA 1080  
 20 AAGTATCGGT GCCAAATATG GTTATCGATA CTTTTTTTAT TTGTTGATTT ATAGAATGTT 1140  
 AGAGGAATTA TATTAAAATT TGGCATTGAC GTAGTAGGTC ATTAATAAAG AAAAAGCAGG 1200  
 AAGTGGGTCA ACGAAATGAA TTTTGTGAAA ATAACATTTT TGTCCCAATC CCTACTATAT 1260  
 25 AACATTATTT TAAACGAGGC ATGCGATTAC GGAAGAATAA GCTTATAACA AGTAAACCGA 1320  
 TGCTACAGCC AAGTAAAATG ATGCCGTTAT GAATAGCGTC ACTTgCTGTA ATCACTTGAT 1380  
 30 CTGGTGGTAC ATTTAAATAA TATTTTTTGA AAACATCTGC AATT 1424

## (2) INFORMATION FOR SEQ ID NO: 567:

## (i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 676 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 567:

40 TCTCCCATGT TCTGCTAAAT GACGCATCAC TTTTACTTCA TGAGGCGTCA ATACACGTCC 60  
 45 TTCACCAGCA TTCAAACCGA CAACATTTAA AGGCCCATAT TCAATACGAG ACAGTTTCGT 120  
 CACTTGATGA CCAAAATGTT CGAACATTCT TCTGACTTGG CGATTACGAC CTTCTGTAAT 180  
 TGTAATTTCA ACCAATGTTG TGTTTTTATC TTTATCTTGT TTCTTAACTT TCACTTCAGC 240  
 50 CGGTTGCGTC ATACCATCTT CTAATTC AAT ACCTTTTTCT AGCGCTTTCA CTTCTTCTCT 300  
 CATTAAATAA CCTTTTAATT TCGCAACATA TTTTTTCTTA ATTTGATATC TTGGATGTGT 360

ACGTCCTCTA TCATCAGATA CACTTGtKAT CACTTGAGTT GGkTTATGGA AkAAAAATGKa 540  
 AAtTTTGTCT TCTAGTTCTA TTTTAATACC TTCAACTTCA ATCGTATCTG ATGGCTTCAC 600  
 5 TTTTGTTCCT AATTCACTGA CAGTCGTACC ATTCACCTTC ACTTTTCCTT CAGAAATTAA 660  
 AGTTTCTGCC TTACGT 676

(2) INFORMATION FOR SEQ ID NO: 568:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 454 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 15 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 568:

20 GAAACGGTTC TACCAAAAAA CAGTAAGGGC TAAACCCAAT CATGGTAAGA CAAAAAGTAC 60  
 AAATAGCCAT GCCCAAGTTG AACTCGCTGT ACGCCTATTT CTTTCTAAAA AGATAATAAT 120  
 AAAAGCCAAT ACTAAATTAA TGATGAATCC AATGGCTAAA ATAATAGTAA ATAACGTTCC 180  
 25 TAAATCGTTT GAAAATGTAA ATCGCATAGT CTTTTCTCCT ATAAAGAAAAG GCACAAAAAA 240  
 ACATTTTGCA CCTTTCACGT CATATTATTT ATTCACAGAT AAAGTTAAAA TTGcATTGAA 300  
 TTCTTCTTCA TTATTTGGGA ATGTTCTTTC TTCTATTTCT TTAATAGTAA TATTTACTAA 360  
 30 TTTTAAATTT GTAGCTTCTT CAGAACTTAA AAAAGCATTa ATGTTTTTTTT CTAATAACTC 420  
 kAAAGTCTCA GCTGtAAAaG TTTTAAGTTT AATT 454

(2) INFORMATION FOR SEQ ID NO: 569:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 894 base pairs  
 (B) TYPE: nucleic acid  
 40 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 569:

45 ACGATATTAC CACCCTCTGA AATAACATCA ATCATGTGAT CTGTAAAGTC CCAAGGATGA 60  
 CTTGTTGTGA AACGAACTCT TGGAATCGCT ATTTTAGAAA TTGCTTGTA AAGATCTCCT 120  
 50 AAGTCATATT CTATATCCTG TAAATCTTTA CCATAAGAAT TTACATTTTG ACCTAAAAGC 180  
 GTTATTTCTT TGTAACCTTC ACGAGCAAGT TCACGTACTT CATCTATAAT GTCTTCAGGT 240  
 CTACGGCTTC GTTCTTTACC TCTTGTAAT GGAACAATAC AATATGTACA AAACCTATCA 300

|    |  |     |
|----|--|-----|
|    | TCAATAACGT CTCCTTCTTT AGACCATACT TCAACAACCA TTGCTTTAGA TAAGTATGCT  | 420 |
|    | TCTTCTAAAA TTTCTGGTAA ATGATGAATA TTATGTGTAC CAAATATCAT ATCTACATTT  | 480 |
| 5  | TGATACGATT TTAAAAATTTT ATTCACTACT GACTCTTCTT GTGACATACA ACCACAAACA | 540 |
|    | CCGATTAAAA TATCAGGTCG TTCTTTTTTTC AAATrCTTCA AATTACCTAT TTCACTAAAC | 600 |
|    | ACTTTGTTCT CGGCATTTTC TCTAATCGCA CATGTATTAA TTAAAAATAAC ATCTGCAGTG | 660 |
| 10 | TTAATATCAG TCGTkGCTTG aTAGCCTAAT GCyTmAGTA TACCAGCAAT GACCTCAGTG   | 720 |
|    | TCATGTGCAT TCATTTGACA TCCATATGTT TTAATTAAAA ATGTACGCTC GTTCCCCATA  | 780 |
| 15 | CCGCGATATT TTyCATCAAT TtGGgAAATC nCTATTATAA CGAACTTCTk GTtTACCnCC  | 840 |
|    | TTTTTTnCGC TCCTTTAAAA TTAAGGCGGC TGATAAACAG GTCCAAAATA TTAC        | 894 |

## (2) INFORMATION FOR SEQ ID NO: 570:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 441 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 570:

|    |   |     |
|----|---|-----|
| 30 | TATCAATCCC ACAGCACATG CTGAACAAGA TCAAACATGG GAGAAGATTA AAGAACGCGG | 60  |
|    | TGAACTTAGA GTGGGTCTTT CTGCAGATTA TGCACCAATG GAATTTGAGC ATACAGTTAA | 120 |
|    | TGGTAAGACT GAGTATGCAG GTGTAGATAT TGATTTAGCT AAAAAAATTG CGAAAGATAA | 180 |
| 35 | TAATTTAAAA TTAAAAATCG TCAATATGTC ATTTGATAGT TTGTTAGGAG CTCTTAAAC  | 240 |
|    | TGGAAAAATT GATATTATTA TTTCCGGAAT GACTTCAACG CCTGAACGTA AGAAGCAAGT | 300 |
|    | TGATTTTTCa GATTCATATA TGATGACTAA AAATATCATG CTTGTAAAGA AAGATAAAGT | 360 |
| 40 | TAATGAATAT AAAGATATCm AAGACTTTAA TAATAAAanA GTnGGGGCAC AAAGGGACTG | 420 |
|    | AACCAGAAAA AATCGCTCAA C   | 441 |

## (2) INFORMATION FOR SEQ ID NO: 571:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 1205 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

|    |  |      |
|----|--|------|
|    | AAGTCGTTCA TCTTTTTCTA CAAGGGTGTA AAAATAATCA ATCATATCGT ATAACGCTTC  | 120  |
|    | TTTACCAATG ATGTCATATG GTGTTGTGT CATTTAATCA CCCATTTTCA AAAATTTACT   | 180  |
| 5  | GTTACGAACT TAAGTTAATA TATAACTAAT ATAACATGAT TTTAAACATT TGAAAGAAAT  | 240  |
|    | ATGCATATTT GCCAATTTAA TTTATATTGT TTGAAAGTGT TTCTTTTTTC TTGAAAAAAC  | 300  |
| 10 | GTTGAACTTT ATTTAAAGGT tGATGATGTT CGAGGTTTAG TTCGTTtAAT AAAGATTtGGA | 360  |
|    | ACTTTTGTAA ACCTTGATTA TAGTCTTTAA CTTCGAACTC TAACTCATAA TCCGTAGTAT  | 420  |
|    | CGAAATACTC ACTTTTATCT AAAACCAGTA AATCACCTTT ATATTTAGTT TCTTGGCGAT  | 480  |
| 15 | ATGTCGTTAA TGCACCAAGT ATTGATAAAG TTGTATCTTT TACACCAAAC TGTTCAACTA  | 540  |
|    | TAATTTGACG AATGTCATCT GGAAGATTGT CGTTTGAAAT AATCAAGTTC ATCTCTGGTT  | 600  |
|    | TAATGTCGAC GATATAGTTG TATTCTAATA GACCAACCTT TGCTGGTGTC TTTAAAGTCA  | 660  |
| 20 | TTTCATATTG ATTGTCTTTA ACTCTTATGC GTAGTGCAGA GCGATGTTCC TTTAATTTGA  | 720  |
|    | AATCGGGTGT ATCAATATAG TAATTGACTT GCTTAmAAAG CACACTGTCT TTAAAATATT  | 780  |
| 25 | TCTCTTGCAA TTTATTATAG ATTGAtGCAG TTATCATTTG TtTAAATTCT ATtTCATGAT  | 840  |
|    | TTGTTGCCAT GATATGTATA CACCTCGTAT CAAATTCAAT TTATCTTAAC TATATTATGA  | 900  |
|    | ATGACAAAGT TGAATTTTAA AAGTAATTTT CTTTATCTAT TATCAATGTT AATTTGACCA  | 960  |
| 30 | TTAAAAATAG TGTTCGTAAG TGTTTTGTAT TATTGaATTG TGTTAAAATG TTATGGAATA  | 1020 |
|    | AGAGGAGGAT TAAGCATGsg TTTwTATATT AATGAAATTA AAATTAAAGA TGACATACTT  | 1080 |
|    | TATTGTTATA CAGAAGATTC TATTAAAGGA TTATCTGAAG TAGGACAAAT GCTCGTTGAT  | 1140 |
| 35 | AGTGATAATT ATGCCTTTGC GTATACATTA GATGATGGTA AAGCGTATGC TTATCTCATT  | 1200 |
|    | TTCGT  | 1205 |

## (2) INFORMATION FOR SEQ ID NO: 572:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 570 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 572:

|    |  |     |
|----|--|-----|
| 50 | TGAAGAAATA GCAATGATGA AATGCCGTAT GTTATATGAG ACGGGGTCAT TTCTTGAATT  | 60  |
|    | AAGAGAAGAA ACAATTGTCT TATTGAAAAAC TGGCATACAA CAATATGATG CATTGATGAT | 120 |
| 55 | TTATTACGTG AAAAGTTTGA TTGGTTTGGG ACAATATTTT GAAGCGGTAG AAGTAATTCA  | 180 |

ATTTGCTAAG TCAAAATTAA TTGAAGATGA AAAACGATTG ACTCAGTCAT TAGCTGATTT 300  
 TGtTACGTTA TCAATGAGGG AACAGACGCA CTTGATTTTG AAGTTAATAG ACAATGGTCA 360  
 5 TTTTCAATTT CAAGAAACGG TATTATATAT ATkAAaAyCT AATaCGTACa GTtATAACCT 420  
 CATTAGTTTA ATGATTGAGT ATTTAAGGTT CGCAAATTGT ACACAAGAAC TGACAATTGA 480  
 AAAGTATGGT ATGGATGTAA CTTTGTACC AGCTAATTTA AAAGGGCTAG AACATACAAC 540  
 10 ACTTAAAGAA AAAGTTATAC CTAACGTTAT 570

(2) INFORMATION FOR SEQ ID NO: 573:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 939 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 573:

GTTGAATGGT TAGCAGCTGC AGTTGTATTA TATTTCTGTG GTGTAATTGT TGACGCTCAT 60  
 25 GTATCATTCA TGTCCTTTAT TGCAATATTT ATCATTGCTG CATTATCAGG TTTAGTCAGC 120  
 TTTATTCCTG GTGGTTTCGG CGCTTTCGAT TTAGTTGTAT TACTAGGATT TAAAACTTTA 180  
 30 GGTGTCCCTG AGGAAAAAGT ATTATTAATG CTACTTCTAT ATCGTTTTGC GTACTATTTT 240  
 GTACCGGTAA TTATTGCATT AATTTTATCA TCATTTGAAT TTGGTACATC AGCTAAGAAG 300  
 TACATTGAGG GATCTAAATA CTTTATTCCT GCTAAAGATG TTACGTCATT TTTAATGTCT 360  
 35 TATCAAAAGG ATATTATTGC TAAAATTCCA TCATTATCAT TAGCAATTTT AGTATTCTTT 420  
 ACAAGTATGA TCTTTTTTGT AAATAACTTA ACGATTGTkT ACGATGCTTT tATATGATGG 480  
 AAATCACTTA ACGTATTATA TTCTATtGGC AATTCATACT AGTGCTTGTT TATTACTTTT 540  
 40 ACTGAATGTA GTTGGTATTT ATAAGCAAAG TAGACGTGCC ATTATCTTTG CTATGATTTT 600  
 AATTTTATTA ATCACAGTGG CGACATTCTT CACTTACGCT TCATATATTT TAATAACATG 660  
 45 GTTAGCTATT ATTTTGTTC TGCTTATTGT AGCTTTCCTG AGAGCGAATA GGTTGAAACG 720  
 CCCAGTAAGA ATGAGAAATA TAGTTGCAAT GCTTTTATTC AGTTTATTTA TTTTATATGT 780  
 TAACCATATA TTTaTTGCTG GAACGTTATA TGCATTAGAT ATTTATACGA TTGAAATGCA 840  
 50 TACATCTGTA TTGCGCTATT ACTTCTGGCT TACGATTTTA ATCATCGCTA TCATCATAGG 900  
 TATGATTGCA TGGTTGTTTG ATTATCAATT TAGCAAAGT 939

(A) LENGTH: 1059 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 574:

10 GAATTAATTA AATATTACAC ACAGCCTCAT TTTTCATTTT CAAATAAATG GCTATATCAA 60  
 TATGATAATG GAAACATTTA TGTTGAACTT AnGAGATATT CATGGTCAGC ACATATATCT 120  
 TTATGGGGCG CTGAAaGTYG GGGAAATATT AATCAGTTAA AAGATCGTTA CGTAGATGTG 180  
 15 TTTGGACTAA AAGACAAAGA TACTGATCAG TTATGGTGGT CTTATAGAGA GACATTTACA 240  
 GGTGGCGTTA CACCAGCCGC AAAACCTTCT GATAAACTT ATAATCTTTT TGTGCAATAC 300  
 AAAGATAAAC TACAAACGAT TATTGGTGCG CATAAAATAT ACCAAGGCAA TAAACCAGTA 360  
 20 TTAACATTGA AAGAAATCGA TTTCCGTGCA CGAGAAGCGT TAATAAAAAA TAAAATATTA 420  
 TATAACGAAA ATCGTAATAA AGGTAAGCTT AAGATCACCG GTGGCGGTAA TAACTACACT 480  
 25 ATTGATTTAA GCAAAGATT ACATTCAGAT CTAGCAAATG TTTATGTTAA AAATCCTAAT 540  
 AAAATAACTG TTGACGTCCT CTTTGATTAG TATATGAAGG TGACTTATAC TTCATGCACT 600  
 TTAATTCCAA ATCAGATTAT TTAAATGATA ATTTTAAAG TGTATGATGT ATATAATAGG 660  
 30 TAAAATTTTC TATATATTTA AATGGAATTG GGAGTAGGAA TGTGACAGAA ATAGTATTTT 720  
 ATAAAATTTA TTCtTGTCAC TCCCCAACTT GCACATTATT GTAAGCTGAC TTTCCGCCAG 780  
 CTTCTATGTT GGGGCCCCGC CAACTTGCAT TGTCTGTAGA aTTTCTTTTT GAAATTCTCT 840  
 35 ATGTTGGGGC CCCGCCTATA ATTGAAAAAT GCTTGTTACA TGGGCATTTT CATTCGGTCA 900  
 ACTACTACCA ATATAATATT GtAGaGCCTA AGACATTGAT TTATTATGTC TTAGGCTCTA 960  
 TTCCTTCATT TAATGATTAA nTTATTATAG CAATACTTTA TTGTCCCATG ATTAGTGTTT 1020  
 40 TTTTAATGAG ACATAGTAAC TATAAAGTTT AATAATCGT 1059

## (2) INFORMATION FOR SEQ ID NO: 575:

45 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 574 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

50

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 575:

55 GTTTGCTTTA GGTCTGTTT CATATTTATA CTTGAAGGA TTTACCTTTT TGaAGTCTGG 60

|    |  |     |
|----|--|-----|
|    | TTCAACTkGC TTTTATTCT TTTGAAATC AGCTGGTTGA GTAGTTATGA GTTCATTATT    | 180 |
|    | TTTATTAGmA TAAATCTTAC CATTAAACATA TTTATAATCT TTTGTTATAA AGTCACCAIT | 240 |
| 5  | TCTGAATGGA ACTACTTGAT TATGACCTTT AGAGAATAAA TCAGTACCGA ACATTAAATA  | 300 |
|    | GTTCTTCGTA TCTATACCAG CCAAATGTAA AATTGTTGGC ATTACATCGA CTTGACCAGC  | 360 |
|    | ATATTCATTA TTGATACCAC CAGATTTACC AGGGATTTTA ATCCAGAAAC CAGTTCTGTT  | 420 |
| 10 | TAAATCTGTA AATTTAGCCG GTGTGATTTT TTCACCTAAT AGTTTTTCCA TGGCATTGTT  | 480 |
|    | ATGGTTTTCA GAGATACCAT AGTGGTCACC ATAAATCATA ATCACTGAAT TGTCATATAA  | 540 |
| 15 | TCCTTTTTTC TTCAAGTCAT TAATATATTC TTCT                              | 574 |

## (2) INFORMATION FOR SEQ ID NO: 576:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 796 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 576:

|    |   |     |
|----|---|-----|
|    | CAATGTTTTA TAGTACAATA TATTTTnAAT AATACTCGTT AAGGAGAATG ATATGATATC | 60  |
| 30 | AATTCACGCA ATTTGACAG GAAAAATCCA AGATTTCCT TATAGCTCGA AAAGACCGAT   | 120 |
|    | GCGCTCTGCT TTAGATAAAA CTAAGATTTT ACAAACAACA TGGTTATCTT CAACTGGTTT | 180 |
|    | CACTGGTGAT GAACAGGCTT ATAAAGATCA TGGTGGACCA CATAAAGCAG TTTGTGGGTT | 240 |
| 35 | TAGTAAGCAT AATTATGCAC TGTATCAAGA TGATTTCCTT AACTACCTA CTCATGCGAT  | 300 |
|    | GTTTGGAGAG AATTAAACAT TTGATTATTT AGACGAATCT GATGTTTACT TTGGTAATCA | 360 |
|    | ATATCGTTTA GGTGAAGCGT TAATTGAGGT TTCTGAAATT AGAGAACCAT ACTGGAAAAT | 420 |
| 40 | TCAAGCAAAA TATAATATTC CTGATTTAGT GAAGCGCATG TCTACATCTG GTAAAACAGG | 480 |
|    | TTTCTATTTT CGGGTATTAA AACAAGGCTA TGTATCTCCA AATGATCAGC TTTACTTAAT | 540 |
| 45 | ACAAGAAGCA CCAATCGAAC ATCGTTTATC TGTACAACAG CTTAATGACC TTTATTATAA | 600 |
|    | TGATAGACAA AATCAAGaTA TGTTACGATA TGCACTAAAC AATCCATTTC TGTCACCAAC | 660 |
|    | AAGACGCGAT AAACCTCAAA AAATGTATAA CAGAACATTG GAAATAATTA CCTTTCATTn | 720 |
| 50 | ATAAGTGTTA AATGAACTTT TCAAAACAnA AAGGAATCAA CTTACACAT CGTTTGTATG  | 780 |
|    | AATAGTCTTA TCTATA   | 796 |

- (A) LENGTH: 1095 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 577:

10 AGAAATTATG ACAAATATA AAGATGGAAA GTTAGTTTAT GCATCAGTCG AACCAGGATC 60  
 TTACGTAATA CATAAAGATG ATGCAATTAA ATATGACGAT TATTCTAAGT TAAAAAATT 120  
 AAGTCAGCTA ACTAACTTG ATCATCCAAA ACCAGTTCCA TATAGCGTAc TCAAATCAAA 180  
 15 TCTTTTCGGAG TACCTTTAAC AAGCGTTTCA TTTATGACAC ATGGATCAAA GGATACTAAA 240  
 GATGAAGTGT TGCCGGCATT GGCCTATTTC ACTTTTTCAC CAAAAAATTA TGAAGACAAG 300  
 TCTAATCCAG ATCCAAAAGT TTTAAATTTA GTACATATGG ATTTCTTAAA TGCATCTAGT 360  
 20 GATTTTGGTA ACGCACATTT TGTTGTTTTA AGTAAATATA TTAAAGAGTA TGAATCAAAC 420  
 TATGAAACAG CGTCAGATGA TTCTTTAAAA TAGTATTTAC TGTGTGAAAA ATAAATAGTG 480  
 TACTACATTA AATAATCGCA ATAATAATCC CGATAAACAA TCAGCATTAC TGCTTATCAC 540  
 25 ATAGAGTTCG TAATAACTAT AACTCTATGA TTCGCAAATA ATAAATGATT GTCATCGGGA 600  
 TTTATTTTTTA TCAATTTATA AAGTGACATT ACCTTGTTCA TCAGCAGGTT TGAAAAACAGT 660  
 30 AATCACTGCA CTAATAATTG CTAAAATGTG TGGGATACCT GTCCAACAGA ATATTAAGTG 720  
 TAGAATACCT TGCATATTCT TGCCGGCATA AAATTTATGA ATACCAAAAC TACCTAAGAA 780  
 CAATGCTAAT AAAATATAAA TAACTTTGTT TACTTGCAAT TCTTTCCCTC CAGTTGAATT 840  
 35 GCTTATAATG ACATTAGCTT CTCTTTTTAT TATACCCACT TTTAGTTCAA ACATTCTAGT 900  
 TTAAGCATT CCAATCATCT AAATTTTCAGT TATTCAATCC TTACAATAAA TTTAGGATTA 960  
 CATTTTCAGTT GCATTGTATT ATTTTACGTG TGAAATATAC GTAATGAATC ACATGACAAY 1020  
 40 CTyCAAATTG AAAAATATAC ATTCTATGAT GTAAGGTCGC ATTTTTAATA TATTTACGTn 1080  
 AAAATAGTTT GGATG 1095

45

## (2) INFORMATION FOR SEQ ID NO: 578:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 489 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 50 (D) TOPOLOGY: linear

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 578:

ACTGCCAAAA TAATCATAGC CATGTTCTAC AGCTGCTTTC GCTACAATAT CCAAACGCAT 120  
 TTCAAAACAA GCGGTACAAC GTAAGCCGCC TTCTTTTTCa TCAGCTAATT CTTTATCCTT 180  
 5 CACCATTTTC ACAAACCTTAT GTGGTTCATA AGGTGCTTCA ATATACTTCA CATTGCGACC 240  
 AGTCTTGCGA TTAAAATCTT CCACAAATTG TTCTTGCACT TTAGCACGTC GTAAGTACTC 300  
 ATTTTTCGGA TGAATATTTG AATTCGCGAA ATAAATTGCA ATGTCTGCAT ATTGTGTAA 360  
 10 AAACCTAAT GTATATGTAC TACAAGGTGC ACAACAATA TGCAATAAGa TTTTAGGTCT 420  
 GATTGCTTCT CTTTCCCACT GsCCGATTAA TnTCTTCAAC ACCTTGTCa TAATTAATTT 480  
 15 GTnGATTTn 489

## (2) INFORMATION FOR SEQ ID NO: 579:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1287 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 579:

CGTACTGCAT CATTGTGTTGA AAAATTTGCA AACTTCTTCA AGATGTTATG GCTTAGACTT 60  
 AAAGCGATGA AGCACTACAA AGCCTTAAAT AAAGAATCTA AGAAGCAAGA ATTTGAAAAT 120  
 30 TCATTCAAAG ATGTTCAAAA AATTATGCGT ATTGTGAATC ACAATATTAT TTTACGCTTA 180  
 AAAGAAGAAC AAAATAGTAC AAATGTACTT GAGGTTAGCT TAGTCATTAA TCATTACTAT 240  
 35 GATATGAGTC GCTCATTAAA GTGGCGTGCA CAACGTCGAA AAGAACGTCA AGAAAACAGC 300  
 AATCAAATCA TACCGCAAGC TATGTTCCAT AACCACAAAT TGGAAGCATT GTACTTACAA 360  
 CGTCATCTTT TAGATGAATT AATTCGCAAA AATAAAATCA ACAATATCGT TGCAGCTCAA 420  
 40 ATTGAGAGAA ATATCAATTa CAACGAAATT GTCTTGCTCTT TACAGTCCAA ACATTaAGCA 480  
 AGaCwTaCaw TmCCCCCGTA CATATGAGAC AAAGTCATTA TCATCTCATA TGTACGGGGT 540  
 TTTTATATTC AACATCAAAA AATCAGATTG ATGAAAAGTA AATAACCTTT CATCAATCCG 600  
 45 ATTTGATTAT AGAATCTATT TTTTAAGTTT AAATGGAATT GTACATACGT TAACATTCTT 660  
 TTGATAAATT AAATACAATT TCATACGCAA ACTAGTTTGA TTGTGTAATA AATTATGCCA 720  
 ACGTTTCTTA GTAATAAATT CTGGTATCAC TACTGTAATC ATATAGTTTT GATCGTTGGC 780  
 50 TTTACGATTA ATCTTATCGA TAAAACGTGA AATTGGTCGT ATAATACTGC GATATTCCGA 840  
 TTTTATATTC AACATCAAAA AATCAGATTG ATGAAAAGTA AATAACCTTT CATCAATCCG 900

TCGGTAATAA ATAGACTTAT CAACTGCTGT TGTAATACTT GTTATCGGCA CAATTGCTAA 1020  
 ATTACGATCT ACCACGTCCA CATTAAGAAC ATCAATGTCA GAACGTAATT GTTCTGCGAT 1080  
 5 ATCTCGATAA TGkTTGkTAA TTTTCAAGAA GAAAATCACC ACGAACGGCA AGAAAATAAG 1140  
 TATCGGCCAT ACTTGGCTAA ATTTAGTTAT GAGTAAATC cATAAnAACA ATAAATGTCA 1200  
 CGATACCACC AAGTAAGTTC ACAGACAACT TACTTAACCA ATTCTTAGGA CGTTCATGAA 1260  
 10 TCCATTTAAT AACCATACCG AATTGTG 1287

## (2) INFORMATION FOR SEQ ID NO: 580:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1223 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 580:

GCCTCCTTTC CTATATCCAT GGGTGTCTTA GTTGGGAATG GCTTATTCCC TATCCCAAAC 60  
 25 ATCTGTCAAT TCAAGACTAT CACTGTATAC TAAATCGCCT nTCTATACnT CCATnCATTT 120  
 CATTTTCCAG TTGGAACAAT TTGTTTAATT ATTTTAAATA TCATTATCAA TCCAGAAGTA 180  
 TTTACTATTC ACTTTTACAA TAATCAATCA TTAACTACA CATGGGTAGT CGGTGGTTTG 240  
 30 CTTGGGGTTA GCTTTTAAAC TGGCAATTTA TTGTTATTGC CAAAATTAGG TGCAACATTA 300  
 ACTGTAATTG CAACAGTTGC GGGTCAAATT ATTATGGGTG TCATTATTGA TACATTTGGA 360  
 35 TTATTTGGCG CTACAATTCA TGATTTTAAT TTAATTAAAG CAATTGGAGT ATTGTTACTC 420  
 ATTGTCGGCA TCGTCATAAT GAATCAATTT AACAAGAATA ATTTATTACT AACTGATCAA 480  
 AAGTATTTAC TGTTTTGGCT TCTATTAGGA TTTATTTTTG GTTTCTTTCC ACCTATTCAA 540  
 40 ACGACAATTA ATAGTGCTTT AGCTAGTCAT ACTCATTAC CAGCCTTTGC ATCATTAGTA 600  
 TCATTTACAA TTGGGTCAAT AGCGCTATTG ATTTTAACCG CTATTTTTAA TCGTTCCTTA 660  
 AACTAAAAA CAAGTCATTT AAAATTCGGT AAATTAAAGC CTATCTATTT TACTGGCGGT 720  
 45 ATACTTGGCA TGGCTTTTGT AACAGCTAAC ATTATCTTAA TGCCTCATAT GGGTGCAGCA 780  
 TTAACAACAC TTATTGGGAT GTTGGCCAG ATTCTAATGG GCATATTGAT AGATCACTTT 840  
 GGATTATTTG GTTCACCTAA AATAGCAATG ACATCCAGAA AACTATTGG TCTATTATGT 900  
 50 ATTTTGACAG GCATTATACT TTAAGATTA TTTTAAATTA ACTTTTAGCT TATCATTTTA 960  
 ACTTGTAATT ATTTTAAAAA GTGATAAGCT ATTTTTTTGT GGTCTAAAAA TCTTTAGAAA 1020

CAACTCATT C TTAAGACCTA AATTAATGTT ATnTTTTAAT AATTTACACC AAATTAATAG 1140  
 CAAAAATTAT GTTATTCGTG CTAATATTTT ATAGTTGGTT ATTCAATTAA TTAAAAATAA 1200  
 5 GTCAAAATGC ACAACTTTTT ATn 1223

## (2) INFORMATION FOR SEQ ID NO: 581:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 454 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 581:

CACCTTTTTA TCATGCTTAG TTATCAATAA ATCTATATTT TGCTGTTTTA CAATTTTTTT 60  
 20 AACTTTATCA ATCTCATTAT CTTGGACTAA ATAAATATAT GATCTTGCAT CTGTTGCTAG 120  
 AGCTTGTTCG TGTTTTTCTG ATAAAACATA TGTGATGGAA GCGTGAATAA TAATGCCTAA 180  
 TGTAACAAAA CTGATAATTA ATATACTGCT TATCAATAAC ATTAAGCGGT GGTGAACTT 240  
 25 CATCATTGTT CTTTAGGTCT TTCCAATTTA TAGCCTAAGC CACGCACAGT TTTAATAAGT 300  
 TGTGGCTTCT TAGGATTATC TTCTAATTTA TCTCTTAAAT GACTGATATG TACATCAACA 360  
 ATTCTTGAGT CTCCTGCAAA TTCATAATTC CATACCGTAT TTAACATATG CTCTCTCGTA 420  
 30 ATGACTCTGC CTGTCTTTC TATCAATAA AGCA 454

## (2) INFORMATION FOR SEQ ID NO: 582:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 452 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 582:

TTTATAAGAT TTTATTTACA AATAATTGGT TTTCATATGT ATAAACACTT TTGACTTTCA 60  
 45 AATCTTAACG ATAATTCTAT TACAATACAA TCCCCTATTA GAATGATTTA TGTAATAAAA 120  
 AAAGCGGAGT TTCCCCCAGC TTTTCTAAAC GACTACATAA AATATAAGAT TGCAATTAAA 180  
 TGCAATAGTG ATGCTATTAC AATAAAAAA1A TGCCAAATCA TATGAAAATA TGGTCTATTC 240  
 50 TTTTGTGCAT AAAACCATGC ACCAATTGTA TAAGACACAC CACCTAAGAA AATGAATAAT 300  
 ATGAATATCC ATGATGTGCG AATAAAAAATA ATTGGTAACA AGATAATACC TACCCAGCCC 360

AAAATCCCCC AAAGTGTCTG TCCCCATAAT AA

452

(2) INFORMATION FOR SEQ ID NO: 583:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1472 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 583:

|             |            |            |            |            |            |      |
|-------------|------------|------------|------------|------------|------------|------|
| CGCTTTTTCG  | AATAAGTCAT | TAGCCGCTTT | TAAGCCTTCT | TCTTTTCGAT | CTACAACAAG | 60   |
| TAAAATAAAT  | GGCTTTAACG | CTTCTTCTTT | TTCACTTTCA | AGCATATCTG | GTTTTTGAAC | 120  |
| CATTTCAAAT  | GGAGATTTCA | ATCCATTATT | ATCGCTCATT | TCAATAATTG | CATCATACTG | 180  |
| TGCTTGTGAC  | ATACTTGCAA | TAGCCTGTTT | TGCATTTTCT | TGAAGGAAAT | ATAAGTTTTC | 240  |
| CAATTTAGGA  | TGCTTATTTA | ATGTACTTAA | TGTAATCGGT | GTAATGTCTT | TCTCATAAGA | 300  |
| CACTTCAATC  | ACTGTACTAT | TTGTTCTACC | AGGAATTGGT | GGTTTTTCAT | GAATATGCTT | 360  |
| TGATACTTCT  | CCAATTCCAA | CGACAGATTG | ATTTTTCGTT | CGATTATAAA | AAATAATATT | 420  |
| GTCGCCTTCT  | TCTAACTGAG | TATAAAAATG | ATAACCATTA | CGTTTAATAC | CGTTGTACGT | 480  |
| GTGCGTATAA  | ATCGTATATT | GGTTTCCAGG | TTCAAATTCT | TCAGTTTCAG | CTAAAAAGAA | 540  |
| ATAACGCGGT  | ATCTTAATTT | CGCCTTTACC | AAGACCACTT | ATTAAATCAA | ACTCTTCTGC | 600  |
| AGTGATTTGA  | TTGAACAATG | TCTCTTTCAT | ATnACTTATA | CGAAATTCCA | AAGCTTCACT | 660  |
| ACGCTTTAAA  | TAATCTGCTG | TTAATGGTTT | CAATTGTTCA | TTAAAACGAA | ACTGTACACG | 720  |
| TATTTTATTT  | TGTGCACCTG | TTTCAACACT | AATAATTTCA | CCACATCCAA | GTAGTCCAGT | 780  |
| ATCCGTCTGA  | ACTTGATAAA | AGATGACTTG | ATCTCCTACT | TTAGCCTTTT | TAAACGCTCT | 840  |
| AAATCCTTGA  | GATGGGTAA  | AATGTGCGCC | TGATTCAAAT | AAAGCTGTTT | GTCCTACTAA | 900  |
| CGGTTCAATTA | TGATTCCAAC | GGTTATATCC | ACAATTCAAC | CAAAAATAAT | TCGTTTCTGC | 960  |
| TGTCATCTTA  | ATACTCCTTA | ACCTGAATAA | ATTTTAGAAA | CACTATGAAT | TACATTCTTT | 1020 |
| TAGTGTTCCT  | TATGCAGTTG | GACGCGTATG | CGAACAACTG | TATACCCTTT | GTTCACTGCG | 1080 |
| ATTTTAATCG  | CATTTTCTAT | AACATTGTAG | CGCCAGGAC  | ATTAATTTAC | GTCCCAGACC | 1140 |
| CTTATCGTTT  | TCACTTCTAA | GTAAGTCGAA | CTATTTTGCT | TTACAACAAG | TGCGAUCTTA | 1200 |
| AATACAGTTG  | GACACACATA | CGAGCAACTG | TATACCTTTT | AATCAGTTTT | CTATATTTTA | 1260 |
| TTTATTATAT  | CTGTCTTAAT | GATAAAAATT | GTTACAAACA | GTTTAACATA | TTTAGCTACC | 1320 |

ATGATACCAC TATGCTTGCh TATCTCTATA GCGCCATTGA TACACATTTT TAAATATCTA 1440  
TACTGCCGTT AGAATTTTAT CATGTCTnAA TT 1472

5 (2) INFORMATION FOR SEQ ID NO: 584:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 787 base pairs  
(B) TYPE: nucleic acid  
10 (C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 584:

GGTAGTGAAT GGGGTTCAAG ACAACAGTAT TGGAAGTACG AATGAATCAC AGTTTTTAGG 60  
AAATTATATT GTAATTAAGC ACGCAGAAAA TGAGTATAGC TTAATAGCTC ATTTACACCA 120  
20 ATATTCAATC ATTGTGAATG AGGGGCAAAA TGTTAAATAT GGTGATATCA TTGGGAAGGT 180  
TGGAATTCT GGCAATTCTA CTGAACCTCA TATACATTTT CAAGTAATGA ATGATAAGAA 240  
TATTGAAGCA TGTACATCTT TAAAAATTCTG ATTTATAAAT AATCGAGAAC TTATCAAAGG 300  
25 GGATGTGGTC TGCGGATTAC AAGCTGAATG ATGGCGATAC TTATAAAATC TCGACACTAT 360  
AAAAATGGTA TAGTGTGAG ATTTTCTTGC TTATTTAGTT AATTCAAAGT GCACGCCGGA 420  
TTCATTAGAA GTCGACGTAT TTTTGTTTGT AATAGAGTAA CCGGTCATTG AAATTTTAGA 480  
30 TTCAATATCT GAAGCGGAAT TTGTAGATTC AGGATTATAG AAGCTACATT CATAAGTGTT 540  
ATCATCTTTC TTTTAAAGTA TAAACATACC TTTGGCTTTA ACTTCGACTT TAGTGTGTGT 600  
AATGTCAAAA GTTTGAGTGC TATTACTATA ATTAACACCA GCCCAAACCG ATTCATTATC 660  
35 TTTCAACAACG GGGAAGTCAT CTTCTTGCTT AACGACGTnA CTTCATCTTT CTCTGTCTTA 720  
AAGACATCTT TAGATAAGCC TGGATACAAC ACATATCCAT ATTTATTGTC AGAATTAGAA 780  
40 TGCTTTT 787

(2) INFORMATION FOR SEQ ID NO: 585:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 830 base pairs  
45 (B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 585:

ATGCTAAATT AGGGGGAATA TTTACGATAA AGAGACCAGA AAAATAATAA AACACATGCT 60

TAAAATGAAG ACTATTTTTT ATTACAAGAA AATGTATCTA GTAAACTTAA AGTAGCAAGA 180  
 CCTAATAAAT TTAATGCATG TTGTGCACCT TTTTACCTT GGCCAGCTTC GAAATGTTTG 240  
 5 TAAGCAGCTA CACTTAAAAT GCCTATCGTT GATAGTGATG CAAGGCGAGA AATGTTTTTA 300  
 TTGATAAAGC TAGCTGAGTA TAAAGCAGCA GTAGTTGCTT CTGCAATGCC GACGTATTTT 360  
 10 ACAAGTTCTT TTTGCAAGCC AAAAGTATGT TCAAACAGTT CAATCATACC CTTATCTTCT 420  
 TGCAATTTAG GTTTACTGGC TTGGTATAGC TCTTTCGCAA GTTTTAAATT CGTTGCGTAA 480  
 CGCAAAATCA TATTTAATTC CTCCCAATAT TTGATTTTTT GTGAAAGATG ATTACTTTAT 540  
 15 CATTTTTACC CGTTTCTATA AAAATGAATC AATTATGTAA CGTATGTGTA GTTTAGGAAT 600  
 GTTTGCTATG GAAATATAAT TCTGTTCACT CAAAATGTAT GAAATTAATG TGTAGTTTTG 660  
 TCGAGTTGCT CTTTAAATTT GGTTAGATTG TTTTTTAGAG AAGCGGTACT ATTTTTAAGT 720  
 20 GCATCAACAG ATTTACCTTC GTTTTGAGAC ATTGAGTTTA TTACAGCACG AAGTTCTGTT 780  
 TCTAGTATGT CaGCGTCGct TTAGCATTAG AACTTAaTat TTAtAcTCTT 830

(2) INFORMATION FOR SEQ ID NO: 586:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 412 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 586:

35 TTAGGACGTT TTTACAATCA GTACAATGAG CTCATTGTTA TTAGTCCTTT AACGGCGTCT 60  
 TTTAATGCTG GCGCTACATT TGGGCGATTT CATCATTTAA TTGATACTGA AACTTTAGCA 120  
 AAATTAGAAC ATGAAAAAGG ACATTATTAT CAGAAGATGA TATGTGATGA CAATGTAGAA 180  
 40 ATGATTTCTA TAAATAACAT ACCGAAATAT CCGAGAAATC ATAATGTATT AACTAATCAT 240  
 GACTCATACG AATATTCATT GAATTTAGGA AGTAGTAATA GTTATTCAAA GTATGAGCTT 300  
 ACCTTAGATG ATATTTATGT TGGTGCTACC TTTtAACAAA TTATATTTAT ATTCTAGCCm 360  
 45 ACTAAATAAA AGGGkaCtaT TTGaATCaAA CmATaTGtAT TAACCTTTTT TA 412

(2) INFORMATION FOR SEQ ID NO: 587:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 4709 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 587:

|    |  |      |
|----|--|------|
|    | TTCAGTTTGA AATTAATCAT ATAAATTTCT TATGGGAGGG TTGATATCTT AATGATTAAC  | 60   |
| 5  | ATTATTTTCAG CTATAGGATC TATTGGAACA TTTATTATGG CTTTATTTTA TTTTGTATCA | 120  |
|    | GTTTCAGTTC AACTTTATCA AATGAAAATT AGCTTTCTGC CAGCTTTAGG TTTTAACCAA  | 180  |
|    | ATTTTATTAG AAAGGGAGGA GGATCAACTT AATATAATGA ATTCGGCAAC AGAAGAGCAT  | 240  |
| 10 | CATCATAAAG ATTATATTAA ACTATATAAT TTAGGTGGCG GTGCTGCTAA TAAAATTGCA  | 300  |
|    | ATAGAGGTTT TATTGGGGAA GGATAGTC ATTCAGAAAA AATACGTGCA TATTkTACCT    | 360  |
| 15 | AGTAAAGAAG GGTACATGTT ACCAATTAAT AAAATGTGT ACGAAGAATT AGAAAGAACG   | 420  |
|    | ATTGAsAACA ATGGTCATGA AGCTGATTTG AATGTACGTA TGACTTATTA TCATAATGTA  | 480  |
|    | AGTCGCAAAC AACAGGAAGT TATATTAAAA GGTCAAATCG ACCGTTTTAA TACTTATAAT  | 540  |
| 20 | AATAAAGAAA TTTATGATTT GCAGTTTATC TAAAAATTGA TTTAAGAGGG TAGTTGTTTA  | 600  |
|    | TTGCGAAAAA TATCATTCAA TTTTAATGAA ATAATGGCGT CATTACTATA AAATATTACT  | 660  |
|    | TTATGTTGTA ATGCATTTTT CTATAAGATA GAACTAAAAG GAGGGGCAAA GATGCAAATT  | 720  |
| 25 | AGACAAATAC ATCAACATGA CTTTGCTCAA GTGGACCAGT TAATTAGAAC GGCATTGAA   | 780  |
|    | AATAGTGAAC ATGGTTATGG TAATGAATCA GAGCTAGTAG ACCAAATTCG TCTAAGTGAT  | 840  |
|    | ACGTATGACA ATACCTTAGA ATTAGTAGCT GTTCTTCAAA ATGAAGTTGT AGGGCACGGT  | 900  |
| 30 | TTACTAAGTG AAGTTTATCT TGATAACGAG GCACAACGGG AAATTGGATT AGTGTTAGCA  | 960  |
|    | CCGTGATCTG TTGATATTCA TCATCAAAAT AAAGGTATTG GGAAGCGATT GATTCAAGCA  | 1020 |
| 35 | TTAGAACGAG AAGCAATATT AAAAGGATAT AATTTTATCA GTGTATTAGG ATGGCCGACG  | 1080 |
|    | TATTATGCCA ATCTAGGATA TCAACGCGCA AGTATGTACG ACATTTATCC ACCATATGAT  | 1140 |
|    | GGTATACCAG ACGAAGCGTT TTTAATTAAA GAATTAAAAG TGAACAGTTT AGCGGGAAAA  | 1200 |
| 40 | ACAGGTACCA TAAATTACAC ATCTGCTTTT GAAAAAATAT GATTTCAGC TAGGATTACA   | 1260 |
|    | TTAGGTAGAG TTCATATTAA TAATAAAAAA TGTTTGCAAT CAAATCGTAC GTTGTCGTTT  | 1320 |
|    | GTAATTCTTA AAATAGCAAT AAATAAAATG TTTGTTAGTA AAGTATTATT GTGGATAATA  | 1380 |
| 45 | AAATATCGAT ACAAATTAAT TGCTATAATG CAaTTTTAGT GTATAATTCC ATTGACAGAG  | 1440 |
|    | ATTAAATATA TCTTTAAAGG GTATATAGTT AATATAAAAT GACTTTTTTAA AAAGAGGGAA | 1500 |
|    | TAAAATGAAT ATGAAGAAAA AAGAAAAACA CGCAATTCGG AAAAAATCGA TTGGCGTGGC  | 1560 |
| 50 | TTCAGTGCTT GTAGGTACGT TAATCGGTTT TGGACTACTC AGCAGTAAAG AAGCAGATGC  | 1620 |
|    | AAGTGAAAAAT AGTGTTACGC AATCTGATAG CGCAAGTAAC GAAAGCAAAA GTAATGATTC | 1680 |

|    |             |            |             |             |            |            |      |
|----|-------------|------------|-------------|-------------|------------|------------|------|
|    | GTCAAACACT  | AATAATGGCG | AAACGAGTGT  | GGCGCAAAT   | CCAGCACAAC | AGGAAACGAC | 1800 |
|    | ACAATCATCA  | TCAACAAATG | CAACTACGGA  | AGAAACGCCG  | GTAAGTGGTG | AAGCTACTAC | 1860 |
| 5  | TACGACAACG  | AATCAAGCTA | ATACACCGGC  | AACAACTCAA  | TCAAGCAATA | CAAATGCGGA | 1920 |
|    | GGAATTAGTG  | AATCAAACAA | GTAATGAAAC  | GACTTCTAAT  | GATACTAATA | CAGTATCATC | 1980 |
| 10 | TGTAAATTCA  | CCTCAAAATT | CTACAAATGC  | GGAAAATGTT  | TCAACAACGC | AAGATACTTC | 2040 |
|    | AACTGAAGCA  | ACACCTTCAA | ACAATGAATC  | AGCTCCACAG  | AGTACAGATG | CAAGTAATAA | 2100 |
|    | AGATGTAGTT  | AATCAAGCGG | TTAATACAAG  | TGCGCCTAGA  | ATGAGAGCAT | TTAGTTTAGC | 2160 |
| 15 | GGCAGTAGCT  | GCAGATGCAC | CGGTAGCTGG  | CACAGATATT  | ACGAATCAGT | TGACGAATGT | 2220 |
|    | GACAGTTGGT  | ATTGACTCTG | GTACGACTGT  | GTATCCGCAC  | CAAGCAGGTT | ATGTCAAAC  | 2280 |
|    | GAATTATGGT  | TTTTCAGTGC | CTAATTCTGC  | TGTTAAAGGT  | GACACATTCA | AAATAACTGT | 2340 |
| 20 | ACCTAAAGAA  | TTAAACTTAA | ATGGTGTAAC  | TTCAACTGCT  | AAAGTGCCAC | CAATTATGGC | 2400 |
|    | TGGAGATCAA  | GTATTGGCAA | ATGGTGTAAT  | CGATAGTGAT  | GGTAATGTTA | TTTATACATT | 2460 |
|    | TACAGACTAT  | GTAAATACTA | AAGATGATGT  | AAAAGCAACT  | TTGACCATGC | CCGCTTATAT | 2520 |
| 25 | TGACCCTGAA  | AATGTTAAAA | AGACAGGTAA  | TGTGACATTG  | GCTACTGGCA | TAGGTAGTAC | 2580 |
|    | AACAGCAAAC  | AAAACAGTAT | TAGTAGATTA  | TGAAAAATAT  | GGTAAGTTTT | ATAACTTATC | 2640 |
| 30 | TATTAAAGGT  | ACAATTGACC | AAATCGATAA  | AACAAATAAT  | ACGTATCGTC | AGACAATTTA | 2700 |
|    | TGTCAATCCA  | AGTGGAGATA | ACGTTATTGC  | GCCGGTTTTA  | ACAGGTAATT | TAAAACCAAA | 2760 |
|    | TACGGATAGT  | AATGCATTAA | TAGATCAGCA  | AAATACAAGT  | ATTAAAGTAT | ATAAAGTAGA | 2820 |
| 35 | TAATGCAGCT  | GATTTATCTG | AAAGTTACTT  | TGTGAATCCA  | GAAAACTTTG | AGGATGTCAC | 2880 |
|    | TAATAGTGTG  | AATATTACAT | TCCCAAATCC  | AAATCAATAT  | AAAGTAGAGT | TTAATACGCC | 2940 |
|    | TGATGATCAA  | ATTACAACAC | CGTATATAGT  | AGTTGTTAAT  | GGTCATATTG | ATCCGAATAG | 3000 |
| 40 | CAAAGGTGAT  | TTAGCTTTAC | GTTCAACTTT  | ATATGGGTAT  | AACTCGAATA | TAATTTGGCG | 3060 |
|    | CTCTATGTCA  | TGGGACAACG | AAGTAGCATT  | TAATAACGGA  | TCAGGTTCTG | GTGACGGTAT | 3120 |
| 45 | CGATAAACCA  | GTTGTTCTCG | AACAACCTGA  | TGAGCCTGGT  | GAAATTGAAC | CAATTCCAGA | 3180 |
|    | GGATTTCAGAT | TCTGACCCAG | GTTTCAGATTC | TGGCAGCGAT  | TCTAATTCAG | ATAGCGGTTC | 3240 |
|    | AGATTCCGGT  | AGTGATTCTA | CATCAGATAG  | TGGTTCAGAT  | TCAGCGAGTG | ATTCAGATTC | 3300 |
| 50 | AGCAAGTGAT  | TCAGACTCAG | CGAGTGATTC  | AGATTTCAGCA | AGCGATTCCG | ACTCAGCGAG | 3360 |
|    | CGATTCCGAC  | TCAGACAATG | ACTCGGATTC  | AGATAGCGAT  | TCTGACTCAG | ACAGTGACTC | 3420 |
|    | AGATTCCGAC  | AGTGAATCAG | ATTCAGATAG  | CGATTCTGAC  | TCAGACAGTG | ACTCGGATTC | 3480 |

|    |              |             |             |              |             |            |      |
|----|--------------|-------------|-------------|--------------|-------------|------------|------|
|    | CGATTCTGAC   | TCCGACAGTG  | ATTCCGACTC  | AGACAGCGAT   | TCAGATTCCG  | ACAGTGATTC | 3600 |
|    | C GACTCAGAT  | AGCGATTCCG  | ACTCAGATAG  | C GACTCAGAT  | TCAGACAGCG  | ATTCAGATTC | 3660 |
| 5  | AGACAGCGAT   | TCAGATT CAG | ATAGCGATT C | AGATTCCGAC   | AGTGACTCAG  | ATTCCGACAG | 3720 |
|    | T GACTCGGAT  | TCAGATAGCG  | ATTCAGATTC  | C GACAGTGAC  | TCAGATTCCG  | ACAGTGACTC | 3780 |
|    | A GACTCAGAC  | AGTGATTCCG  | ATTCAGCGAG  | T GATTCCGGAT | TCAGATAGTG  | ATTCCGACTC | 3840 |
| 10 | C GACAGTGAC  | TCGGATT CAG | ATAGCGACTC  | A GACTCGGAT  | AGCGACTCGG  | ATTCAGATAG | 3900 |
|    | C GATTCCGGAC | TCAGATAGCG  | ATTCAGAATC  | A GACAGCGAT  | TCAGATT CAG | ACAGCGACTC | 3960 |
|    | A GACAGTGAC  | TCAGATT CAG | ATAGTGACTC  | G GATT CAGCG | AGTGATT CAG | ACTCAGGTAG | 4020 |
| 15 | T GACTCCGAT  | TCATCAAGTG  | ATTCCGACTC  | A GAAAGTGAT  | TCAAATAGCG  | ATTCCGAGTC | 4080 |
|    | A GTTTCTAAC  | AATAATGTAG  | TTCCGCCTAA  | TTCACCTAAA   | AATGGTACTA  | ATGCTTCTAA | 4140 |
| 20 | T AAAAATGAG  | GCTAAAAGATA | GTAAAGAACC  | ATTACCAGAT   | ACAGGTTCTG  | AAGATGAAGC | 4200 |
|    | A AATACGTCA  | CTAATT TGGG | GATTATTAGC  | A TCAATAGGT  | T CATTACTAC | TTTTCAGAAG | 4260 |
|    | A AAAAAAGAA  | AATAAAAGATA | AGAAATAAGT  | AATAATGATA   | TTAAATTAAT  | CATATGATTC | 4320 |
| 25 | A TGAAg nAac | r CCTTAAAAG | GTGGCTTTTT  | T ACTTGGATT  | TTCCAAATAT  | ATTGTTTGAA | 4380 |
|    | T ATAATTAAT  | AATTAATTCA  | TCAACAGTTA  | ATTATTTTAA   | AAAGGTAGAT  | GTTATATAAT | 4440 |
|    | T TGGCTTGGC  | GAAAAAATAG  | GGTGTAAGGT  | AGGTTGT TAA  | TTAGGGAAAA  | TTAAGGAGAA | 4500 |
| 30 | A ATACAGTTG  | AAAAATAAAT  | TGCTAGTTTT  | ATCATTGGGA   | GCATTATGTG  | TATCACAAAT | 4560 |
|    | T TGGGAAAGT  | AATCGTGCGA  | GTGCAGTGGT  | TTCTGGGGAG   | AAGAATCCAT  | ATGTATCTAG | 4620 |
|    | T CGTTGAAAC  | TGACTAATAA  | TAAAAATAAA  | TCTAGAACAG   | TAGAAGAGTA  | TAAGAAAAGA | 4680 |
| 35 | T TGGATGATT  | TCAATATGGT  | CCnTTCCCA   |              |             |            | 4709 |

## (2) INFORMATION FOR SEQ ID NO: 588:

- 40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1554 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (x1) SEQUENCE DESCRIPTION: SEQ ID NO: 588:

|    |             |            |            |             |            |            |     |
|----|-------------|------------|------------|-------------|------------|------------|-----|
| 45 | CTTTTTTAAAt | TAwCgGaAtA | TTGtCaTgaT | tAcAcTTCGt  | TAGGGTTTAc | gTCGtAATTT | 60  |
| 50 | CATTTTaaTAA | gCgCTTCAcC | ATTAAAtGTG | gTA mCCTTTA | ATTCGCCAGT | AGAAACATCA | 120 |
|    | CAGTAACTAA  | GCGCAATTC  | AGGTTGATTC | ATAACAAAAC  | TTAAAATATA | GTTATTTTGT | 180 |

CGTCTAACCA TACCTTTCGT TTGTTTCGGA TCTTCCATCT GTTCACAAAT AGCTACTTTA 300  
 TATCCATTAT TAACAAGTGT ATCTATATAA CTATCTGCAG AATGATACGG AACACCACAC 360  
 5 ATCGGAATTG GATTTTCTTT TTTAGCATCT CTTTTAGTTA AAGTAATTTT AAGTAyACGT 420  
 GATGCCTCCT TGGCATCTTC ATAAAACATT TCATAGAAAT CACCTAGTCT AAAAAATAAT 480  
 AAGCAATCTT GGTATTCTGA TTTTATTTTT AAATATTGCT GCATCATTGG TGTAACATTA 540  
 10 GACATATTAT TTCTTCACAA CCCTTGTCTC TTTTTAAAAT TTGTCTTTAC AATATATTCTG 600  
 TTTGTAAGyT TTTTAATTAT TAATTATTTA ACTTATACAT TTTAACATAC TTTCTTTTAC 660  
 AAACCTATTC ATACCATATA ATCACGAAGC ATCTTAAATG TATAAGAAAA CGCCTCAAAC 720  
 15 CTAATAAAAT GTGTCAATAG CATGTTTAGA ATTAAATTAA AATTCTAACA TTCAAGACAT 780  
 TTAATTAAGT AAGGGCGTTC AATATTAAAA TGAACAATGA CTCTGTTTGA AATCATATAT 840  
 20 CATAAAATTA TTTTATAAAC CTTTGAAGAA TACCACGTTT TTTTAGAGTA ATTAATAAGA 900  
 AATAACTTAT AATAGATCCG ATAGCACTTG aGACTATGaA CGTAATCATT AACGGTTTAA 960  
 TGAAGAAGTC TTGAAGCCCA AGGaAATATG CTAATGGtAT aCaAATTAAA cTTCCgATGA 1020  
 25 CaCCAGTTCC aAGTACTTCa CCGACCGCGG CCaTAAATAT ATGTTTACGA TATnygTAAA 1080  
 ACATACTAGC CAATAAAACT CCAATCATAC TACCCGAAAA TGCAAAAAGst GTACCAGTAC 1140  
 CAAAAAGAAC TCTTAAAATT GATGATATAA GCGCTTGAGC TAATCCATAC CAAGGACCTA 1200  
 30 CTATGACCGC ACTTAATACA TTTACAAAAT GCTGTACTGG TGCTGCCTTA ACTGGTCCTA 1260  
 GAGGAATGAT GATAATACTG CTTAATACAA CATTTATTGC AATTAAAAGT GCAGTTATAG 1320  
 CCAGTTTTCT TGATTTTATA TGATTGTTCT CCTTTTTGTT TGTAATTAAT CACTATGCTT 1380  
 35 GGCTTTATTA TGGTCATTTA AACGTGTTTC CATTGTTGAT ACAAACATTT TCAATAATTG 1440  
 ATTCGCTTCA TATTGTGAAG TTTGAACTG TTCAACTATG GGCAATGTAT TTATTTCTGC 1500  
 40 TTCTAtACTC TGAATGGtAT GTTCCGACTG nTCCAGCGCA TTTGTTTCCC GnAA 1554

## (2) INFORMATION FOR SEQ ID NO: 589:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 638 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 589:

TTTTGACGAA AAAAGTTGAT TTACAAATAT ATAAACGTTG TGATTTCAAT GTTTGTATAG 60

TATATACATG ACAGCAACTT GGGAAAAAAAA GGAAGGTAAC GAAGGTTTAT TAACTGTTAC 180  
 TGTTCCTGCA GAAAAAGTAA ACAAAGCrCT GAGAGATCCC CTCATAATTT CCCCAGCG 240  
 5 TAACCATGTG TGAATAAATT TTGAGCTAGT AGGGTTGCAG CCACGAGTAA GTCTTCCCTT 300  
 GTTATTGTGT AGCCAGAATG CCGCAAACT TCCATGCCTA AGCGAACTGT TGAGAGTACG 360  
 TTTCGATTTT TGAAGTGTGTT AGCCTGGAAG TGCTTGTCCC AACCTTGTTT CTGAGCATGA 420  
 10 ACGsCCGCAA GCCAACATGT TAGTTGAAGC ATCAGGGCGA TTAGCAGCAT GmTATCAAAA 480  
 CGCTCTGAGC TGCTCGTTTCG GCTATGGCGT AGGCcTAGTC CGTAGgCAGG ACTTTTCAAG 540  
 TCTCGGAAGG yTTCTTCAAT CTGCATTTCG TTCGAATAGA TATTAACAAG TTGTTTGGGT 600  
 15 GTTcGAATTk CAACArGTaA GTtAGtTGCT AGAnCCCA 638

(2) INFORMATION FOR SEQ ID NO: 590:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1242 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 590:

AAAATATTCC CGTACATTTT GATGTCTGTA GGGGCTTTTT TGACTTTAGG ATTTGTCAAT 60  
 30 TTTTCAATTC ATAAAGGGAG ACGAACGAAA AATGAATCAG CACGTAAAAG TAACATTTGA 120  
 TTTTACTAAT TATAATTACG GCACATATGA CTTAGCAGTA CCAGCATATT TACCGATAAA 180  
 AAACCTTAATA GCTTTAGTAT TGGATAGTTT GGACATTTCA ATATTTGATG TCAATACACA 240  
 35 AATTAAAGTG ATGACGAAAG GTCAATTACT TGTTGAAAAT GATCGACTCA TTGATTATCA 300  
 AATCGCTGAT GGAGATATTT TGAAGTTACT ATAGGAGGGA AAATAGATGG TTAAAAATCA 360  
 40 TAACCCTAAA AATGAAATGC aAGATATGTT AACGCCTTTA GATGCTGAAG AAGCAGCTAA 420  
 AACAAAATTA CGCTTAGATA TGAGAGAGAT TCCTAAGTCT TCAATTAAAC CAGAACATTT 480  
 TCATTTAATG TACTTATTAG AACACATTC TCCATATTTT ATAGATGCTG AATTAAGTGA 540  
 45 ACTACGTGAC aGTTTCCaAA TACATtATGA CATTAAATGAc AATCATACAC CTTTTGATAA 600  
 TATTAAATCA TTTACTAAAA ATGAAAAATT ACGTTACTTA CTCAATATCA AAAATTTAGA 660  
 AGAAgTAAAT CGTACACGCT ACACATTTGT GTTGGCACCA GATGAATTAT TTTTCACAAG 720  
 50 AGATGGATTA CCCATTGCTA AAACAAGAGG GTTACAAAAT GTTGTGATC CATTACCTGT 780  
 GTCAGAAGCT GAATTTTTTAA CAAGATATAA AGCGCTGGTT ATCTGTGCAT TCAATGAGAA 840

AACTAAAAGTT ATTGAAGCGG CAACGTTAGA TTTACTAACG GCATTTTGTAG ATGAACAGTA 960  
 TCAGAAACAA GAACAAGATT ATAGTCAAAA TTATGCATAT GTACGCAAAG TAGGACATAC 1020  
 5 CGTTTTCAAA TGGGTTGCTA TCGGTATGAC AACGTTAAGT GTTTTATTAA TTGCATTCTT 1080  
 AGCCTTTTTA TATTTTTCAG TAATGAAGCA TAATGAGCGC ATTGAAAAAG GATACCAAGC 1140  
 10 ATTTGTAAAG GATGtTATAC GCAAGTACTA AATACGTATG ATGATTTAGA TGGTaAAAAAt 1200  
 TgaTAAAGAG GCACTTTACA TTTATGCCAA AAGTTATATC CA 1242

## (2) INFORMATION FOR SEQ ID NO: 591:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 744 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 591:

TTCCAGATAG AGCCTTAGTT GCTGCCGCTG AATTGTCTGA TCGTTACATC ACTGATCGTT 60  
 25 TTTTACCAG ATAAAGCGAT TGATTTAGTT GACCAAGCAT GTGCAACAAT TCGTACGGAA 120  
 ATGGGATCAA ATCCAAGTGA ATGGATCAA GTTAATAGAC GTGTCATGCA ATTAGAAATT 180  
 30 GAAGAAAGCG CACTTAAAAA TGAATCTGAC AATGCGAGCA AACAGAGATT ACAAGAACTA 240  
 CAAGAAGAGC TTGCCAATGA AAAAGAGAAA CAAGCAGCAC TTCAATCTCG TGTAGAATCA 300  
 GAAAAAGAAA AAATAGCAAA TTTACAAGAA AAACGTGCGC AACTAGATGA AAGTAGACAA 360  
 35 GCGTTGGAAG ATGCACAAAC AAATAACAAT TTAGAAAAAG CTGCTGAACT ACAATATGGA 420  
 ACAATTCCTC AATTGGAAAA AGAACTTAGA GAATTAGAGG ATAATTTCCA AGATGAGCAA 480  
 GGTGAAGATA CAGATCGAAT GATTCGTGAA GTTGTAACAG ACCAAGAAAT TGGCGATATT 540  
 40 GTCAGCCAAT GGACAGGCAT ACCAGTTTCA AAATTAGTTG AAACAGAACG TGAAAAATTA 600  
 CTTCACTTAA GTGACATCTT GCATAAACGT GTTGTAGGTC AAGATAAAGC GGTTGACCTG 660  
 GTTTCAGATG CAGTAGTTAG AGCAAGAGCA GGTATTAAAG TnCAAAACAGA CCTATTGGTA 720  
 45 GTTTCThATT CCTAGGTCCn ACTG 744

## (2) INFORMATION FOR SEQ ID NO: 592:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1449 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear